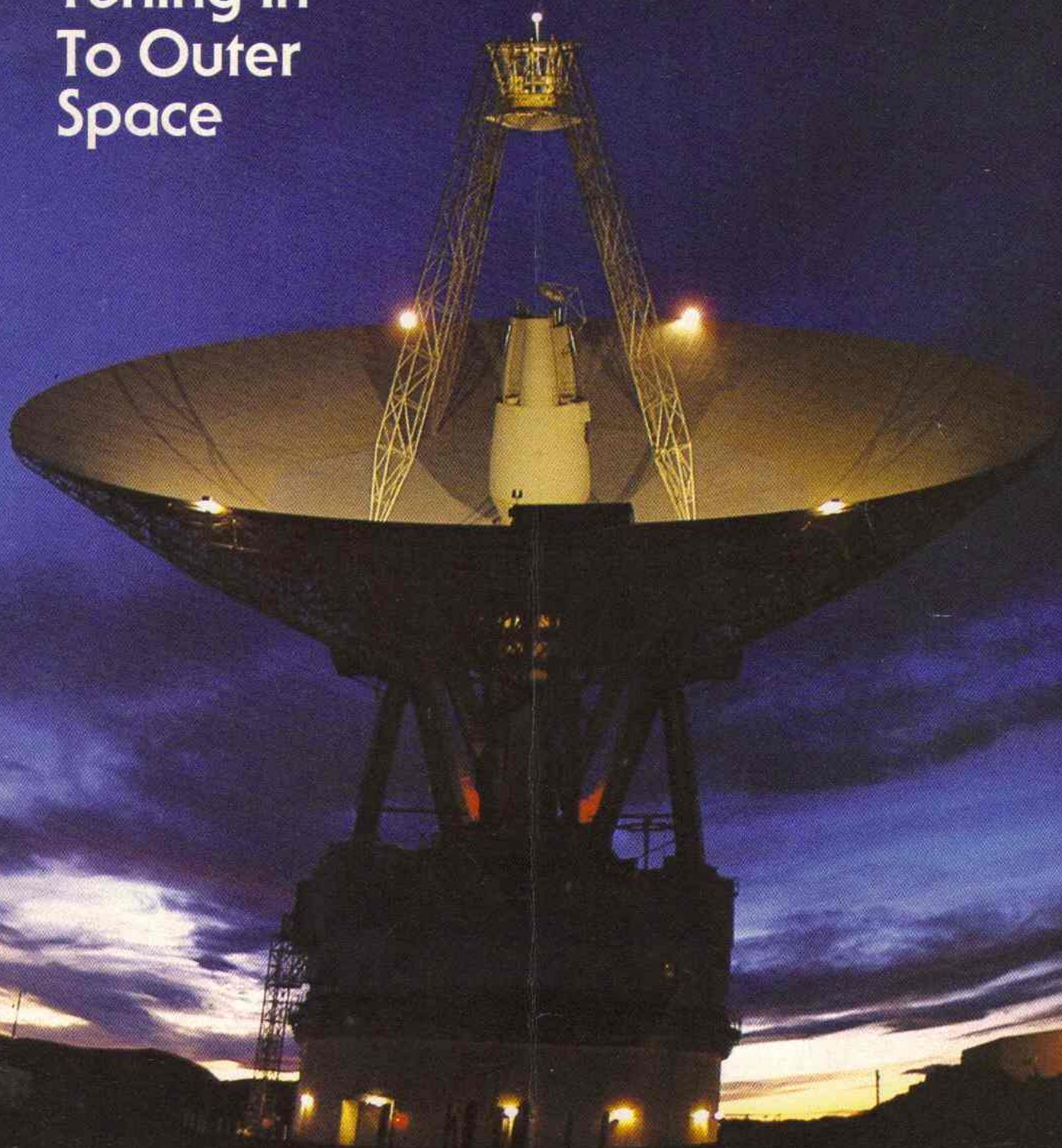


A Science Magazine from CTW, the Creators of Sesame Street.

May 1984

# 321 CONTACT

Tuning In  
To Outer  
Space







# Gotcha!

No, this isn't a photo from the new horror movie, "Claws." It's just your average lobster as seen through a special camera lens. But there *is* something special about this lobster. It was raised on a one-of-a-kind farm for lobsters in California.

These lobster farms are just one of many experiments in growing food. Some other far-out food ideas: drums of spinach which may grow in space, and eight-foot-tall tomato plants which people tend on stilts.

For a taste of what foods may be in store for you and your stomach, and how they'll grow, turn to page 22.

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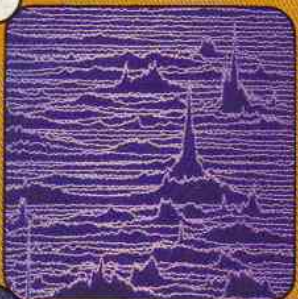
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# 3-2-1 CONTACT

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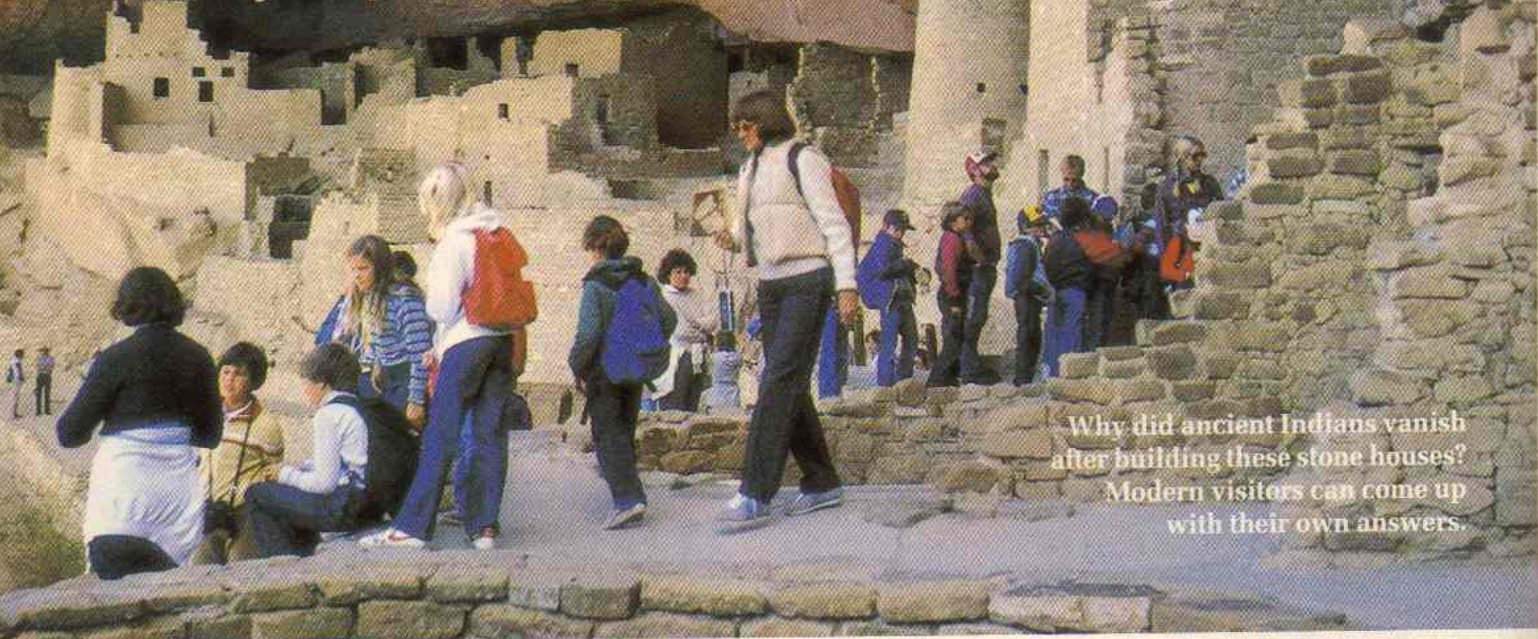
**Front Cover:** This giant radio telescope is located in California's Mojave Desert. Scientists use it to search for life in space.



# The Lost Civilization

## KIDS SEEK CLUES TO AN ANCIENT MYSTERY

by Gary Ferguson



Why did ancient Indians vanish after building these stone houses? Modern visitors can come up with their own answers.

One day recently, Ryan Bregenzer, 10, and his classmates climbed aboard a bus in Denver, Colorado. They were going to another civilization, a thousand years back in time.

By late afternoon, the kids entered an area of the Southwest known as the Four Corners—where the states of Colorado, Utah, Arizona, and New Mexico all come together. Here coyotes howl at night in fields of tall sagebrush. Golden eagles ride the winds that blow along the rocky valleys.

Long ago this land was the home of some special people—the Anasazi (An-uh-SAH-zi). Around the year 600, these Indians built houses of stone in the canyons and on the ridges above. Today this area is called Mesa Verde. For 700 years the Indians lived in peace. Then about 1300, the Anasazi disappeared.

Today, scientists who study the past, called archeologists (ark-e-OLL-uh-jists), are trying to find out more about the Anasazi. They have found Anasazi tools, toys, and the pots they used to carry water and to cook. But archeologists don't yet know what happened to the Anasazi people. The

answer remains a mystery—one that Ryan's class had come to learn more about.

### A Face from the Past

For the next four days, Ryan and his classmates would learn about the ways of these ancient Indians. By the time everyone had emptied their packs at the lodge, it was dark.

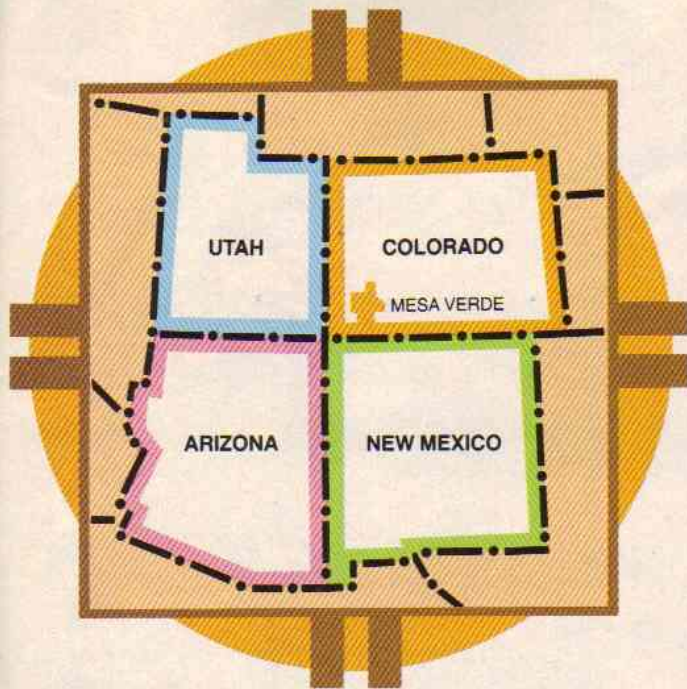
A crescent moon hung from a sky brimming with stars. "It was a little scary heading off into the darkness," admitted Ryan. The group sat in a tight circle to keep warm around a campfire. Up on the hillside, someone began playing soft flute music.

"Look into the fire," said amateur archeologist Ed Berger. "Imagine the face of an Anasazi child. What would he say to you if he were really here?"

Ryan and the others stared into the fire as Berger continued, "He might want to know if you plant and harvest your food. Or whether you make your shoes, clothes, and games as his family did."

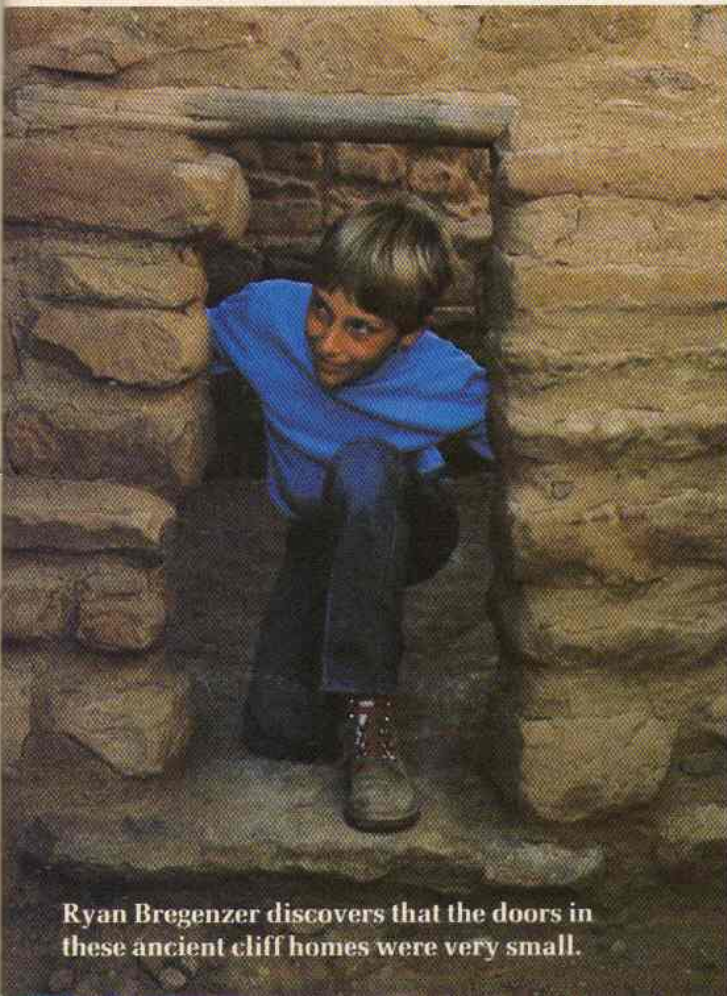
Later, Ryan said, "It sounds like it would have been hard to be an Anasazi. You'd spend a lot of time just trying to survive!"





**Above:** The Four Corners is where Colorado, Utah, Arizona, and New Mexico come together. Mesa Verde National Park is nearby.

**Right:** Getting in or out of a cliff dwelling takes some work! Visitors can climb a pole ladder like these kids are doing, or climb the cliff itself, using tiny finger and toe holds.



### Pieces of the Puzzle

The next morning it was time for a game called "Cultural History Mystery." Prehistoric Indian items were laid out in boxes on long tables. There were spears, pottery, jewelry, and arrowheads that archeologists had found. Ryan's class split into groups to figure out which boxes of items were made first. Some pieces were fairly modern. Others were copies of items made 10,000 years ago.

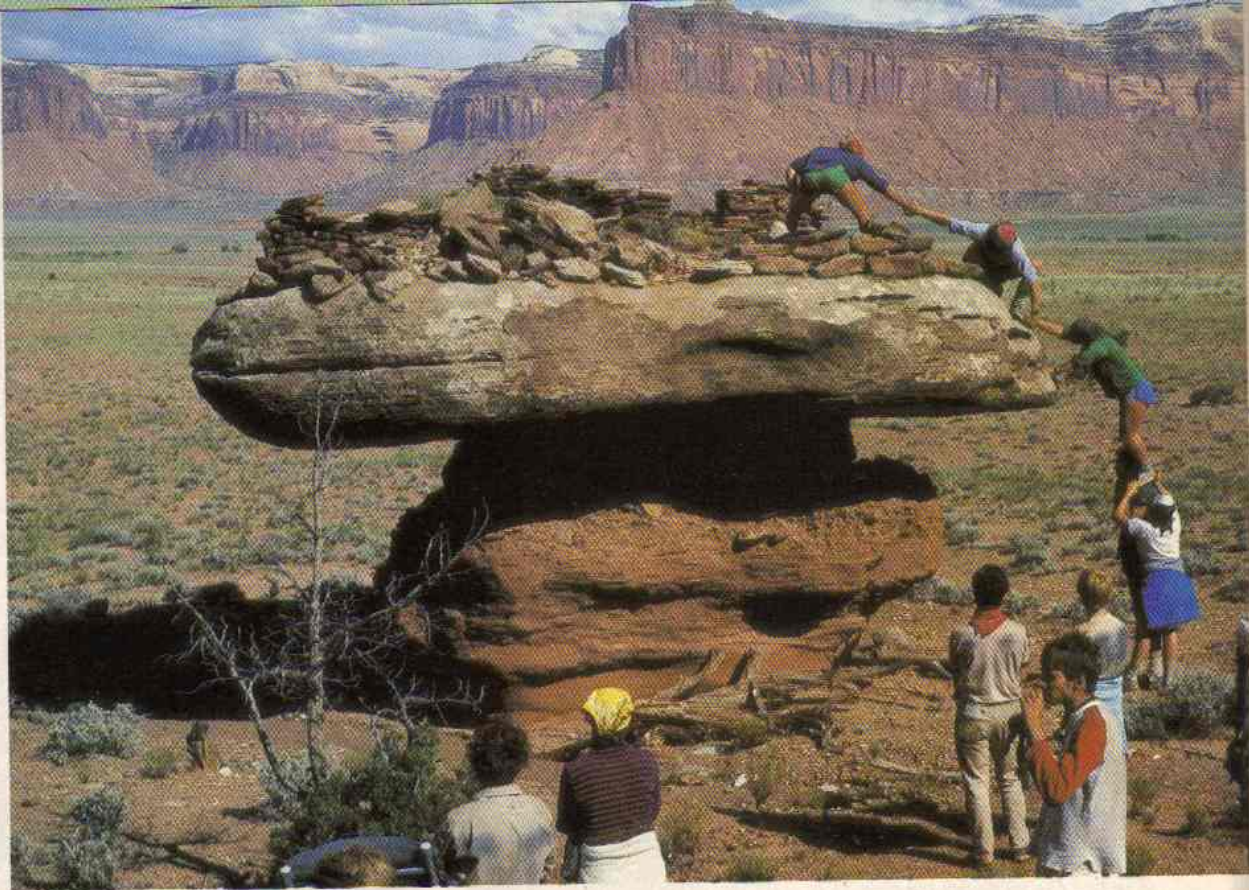
There was one box of items, for example, with a picture of men hunting with spears. The kids figured that these artifacts came from very ancient Indians. Another box of artifacts showed people hunting with bows and arrows. The kids decided that these items were more modern because bows and arrows were developed later than spears.

Much of what Ryan's class was learning would come in handy on the afternoon hike. They would search for more artifacts on their own. Almost as soon as the kids got out on the trail, Ryan spotted something strange. With a flash of excitement, he picked up the object and turned it over in his hands. A piece of Anasazi pottery! It looked as ➤

Ryan Bregenzer discovers that the doors in these ancient cliff homes were very small.



**Right:** Visitors to Mesa Verde can climb over strange-shaped rocks that were eroded by desert winds and flash floods.



though ropes of clay had been wound on top of each other to form the pot.

"It's probably from the time when these people had first learned to make clay pots," explained Ed Berger. "Maybe 1,500 years ago."

Before continuing down the trail, Ryan put the piece of pottery back where he had found it. He knew he wasn't allowed to take it home. And he couldn't just turn it over to Ed Berger, either. Ryan was learning that the place where an object is found can be just as important to archeologists as the object itself. Someday this piece of pottery might lead archeologists to an earthen oven the Anasazi used to bake their pottery.

Ryan wasn't disappointed that he couldn't take home a souvenir. "It was neat just to be out on the trails finding things from the Anasazi that no one had ever found before," he said.

### Cities in the Cliffs

The next morning, everybody climbed aboard the bus and headed for Mesa Verde National Park. Long ago the area's cliffs had eroded into giant shallow caves. There the Anasazi built villages out of rock and mud plaster. The largest cliff dwelling in North America is here. It is called Cliff Palace and has over 200 rooms.

Ryan ran his hands over the small steps carved into the rocky cliffs. He was amazed that the

**Above:** After this girl learned how Indians made clay pots, she got a chance to make one herself.



Anasazi could climb up and down the steep sandstone walls of the canyon, using only these shallow holds. "I would have liked living in a cliff house and going out to hunt for food," said Ryan.

The Anasazi had not always lived in these cliff houses, Ryan learned. Once they had roamed hundreds of miles each year to get food. The structures they built as they traveled were simple.

Then, about 900 A.D., the Anasazi made a discovery that changed their lives. They learned to plant their food. They didn't have to keep moving to stay alive. They could live in one place. Then they built cities like the ones at Mesa Verde.

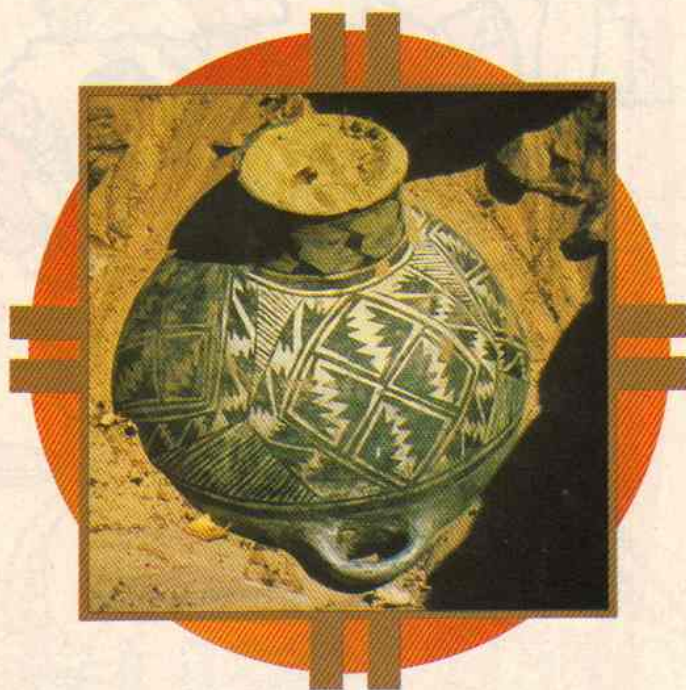
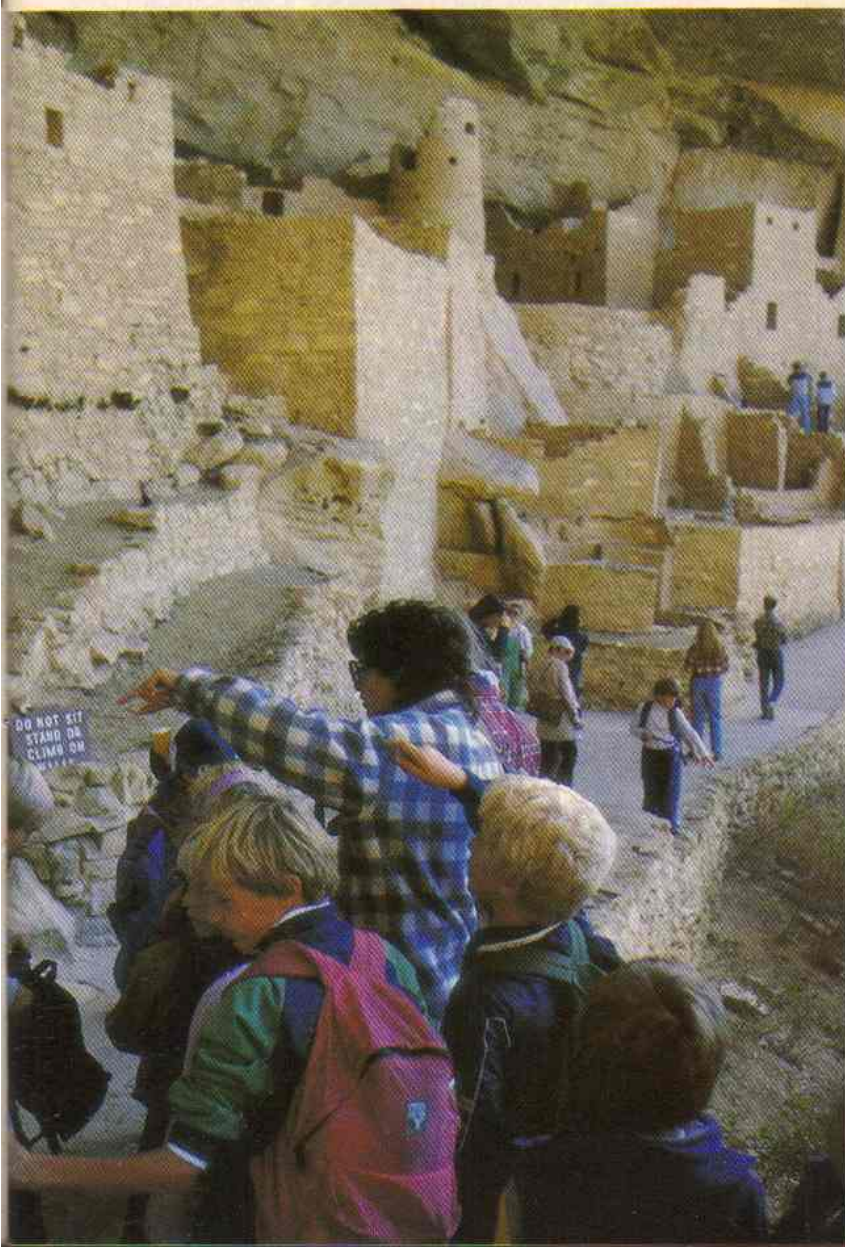
### Missing Links

After a few days, Ryan learned to walk with his attention focused on the ground. He discovered stone chips where someone had once sat to make an arrowhead. Dr. Bruce Bradley, an expert on ancient tools, showed the class how a deer antler was used to chip those sharp points out of rock.

On their last evening, Ryan's class gave skits on what they had learned about Anasazi life during the week. Some showed the Indians trading with distant villages for valuable ornaments. Other skits told how they hunted for deer or planted corn.

The kids had learned a lot. But they still had many questions. For example, where did the Anasazi go when they left their cliff homes? Some archeologists think they went to areas nearby where their descendants live on as Hopi and Zuni Indians. Some modern Indians in the Four Corners area still build the same kivas or special rooms for religious ceremonies that the Anasazi used long ago. They also still draw pictures of flute players and other symbols that the Anasazi drew.

But even for archeologists, the most puzzling question of all is still unanswered. Why, after building these beautiful homes, did the Anasazi leave them? Ryan and his classmates thought about this mystery as their bus took them back to 1984 and home to Denver.

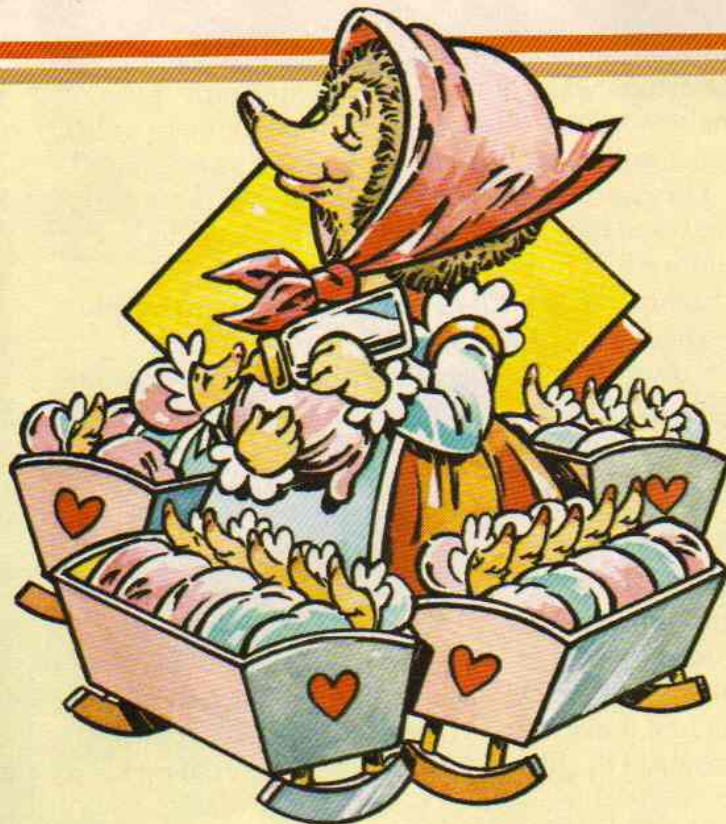


**Above:** A well-made clay pot like this one is an exciting find. Scientists study it—and other objects—to learn more about how Indians once lived.

**Left:** This is Cliff Palace, the largest of the cliff houses that Indians built at Mesa Verde. The homes were built in shallow caves in the sides of cliffs.



# Factoids



The tenrec has more babies  
at one time than any other mammal.  
Its known record is 32.

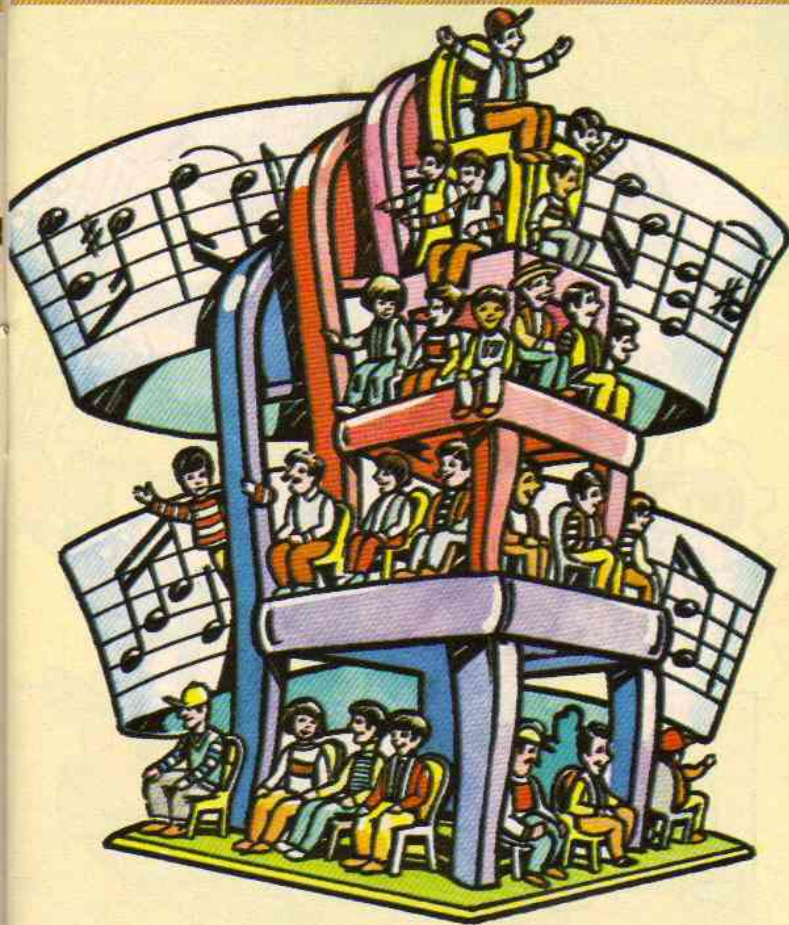


In an average lifetime,  
people spend about  
six years dreaming.

There is enough salt  
in the world's oceans  
to cover the United States  
with a layer of salt one  
and a half inches deep.







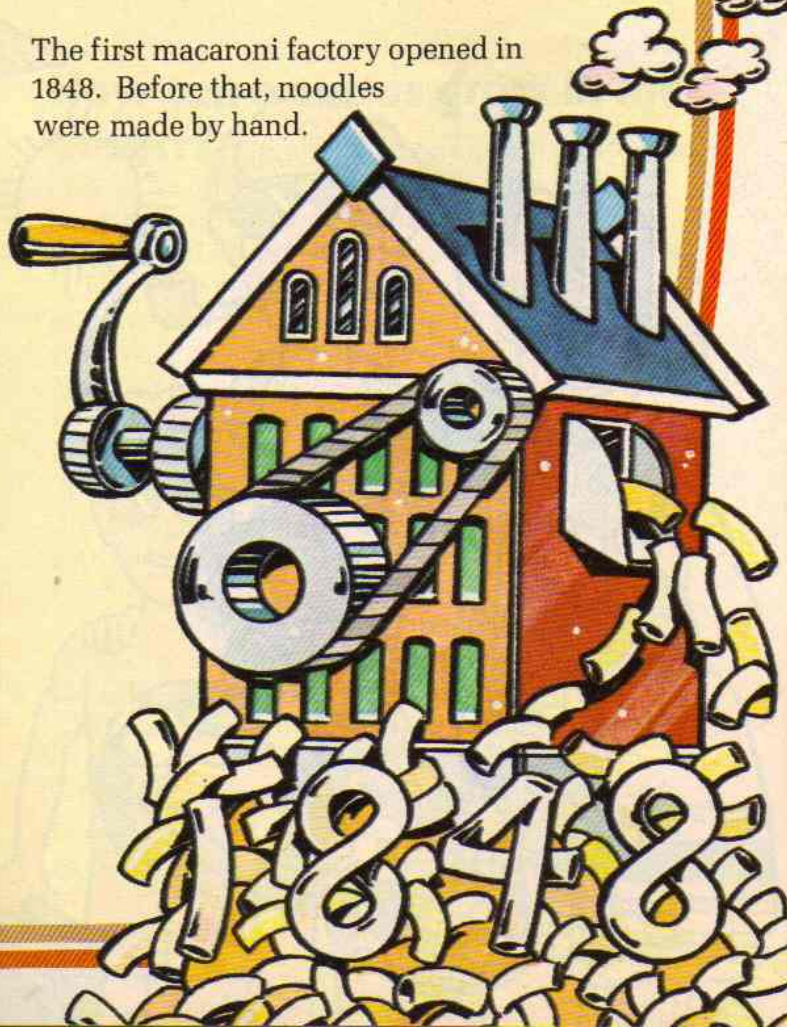
The largest game of musical chairs ever played started with 4,378 people.



The needles of the longleaf pine are so long—18 inches—that people used to tie them in bunches to make brooms.



If all the roads in the world were placed end to end, they'd go around the earth more than 1,700 times.



The first macaroni factory opened in 1848. Before that, noodles were made by hand.



# Any Questions?

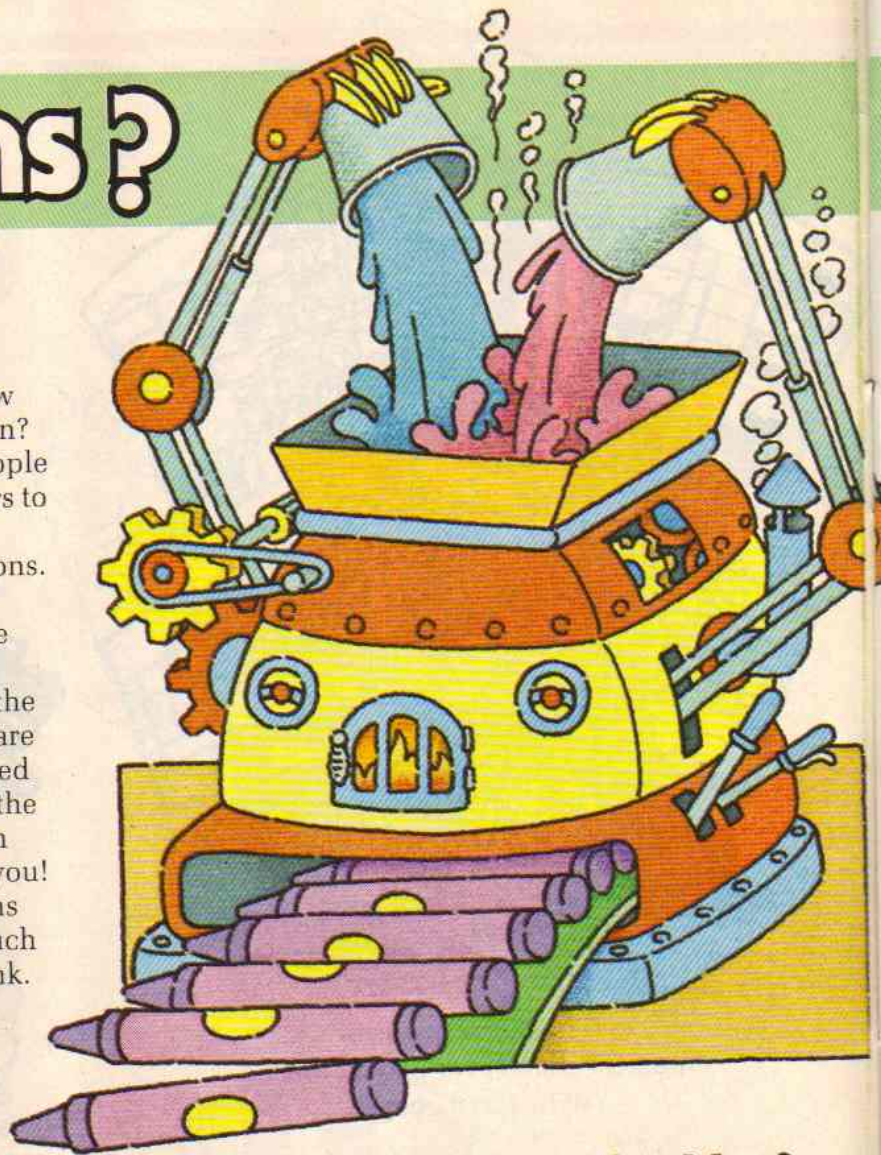
by Joel A. Samberg

**How are crayons made?** How many different colors can you name? Fifteen? Twenty? There are many more than that. People are always experimenting with mixing colors to create new ones.

In fact, that's the first step in making crayons. People begin by mixing together colored powders called pigments. Then they mix the pigments with wax.

How do the colors get into the wax? First the wax is heated. When it melts, the pigments are added. The colorful liquid wax is then poured into little tube molds. When the wax cools, the crayons are wrapped in paper and packed in boxes. Then they're sent to the stores—and you! Today there are 70 different colors of crayons ranging from your basic reds and blues to such exotic ones as sunset gold and carnation pink.

Question sent in by Doug Hoffman, Reno, NV.



## How do people get freckles?

Think about the last time you went to the park, or a movie, or any place where there were a lot of people. Did everybody look alike? You probably noticed that there was something that made each person look a little different. One of these differences is the color of people's skin.

For example, some people have darker skin than others. Some people have freckles. And some people get very tan at the beach. That's all because of a dark substance in your skin called melanin (MEL-uh-nin).

Melanin helps to protect skin from the harmful rays of the sun. When sun hits the skin, it starts to make more melanin. So your skin gets darker. People with less melanin get sunburned, because they have less protection.

Some people have little clumps of melanin under their skin. This is what causes them to get little dark spots—freckles! The amount of melanin you have and whether or not it clumps together depends on heredity. In other words, if you have freckles, blame them on your parents!

Question sent in by Ross Worby, Holliston, MA.





Do you have a question that no one seems able to answer? Why not ask us? Send your question, along with your name, address, and age, to:

**Any Questions?**  
**3-2-1 CONTACT**  
P.O. Box 599  
Ridgefield, NJ 07657

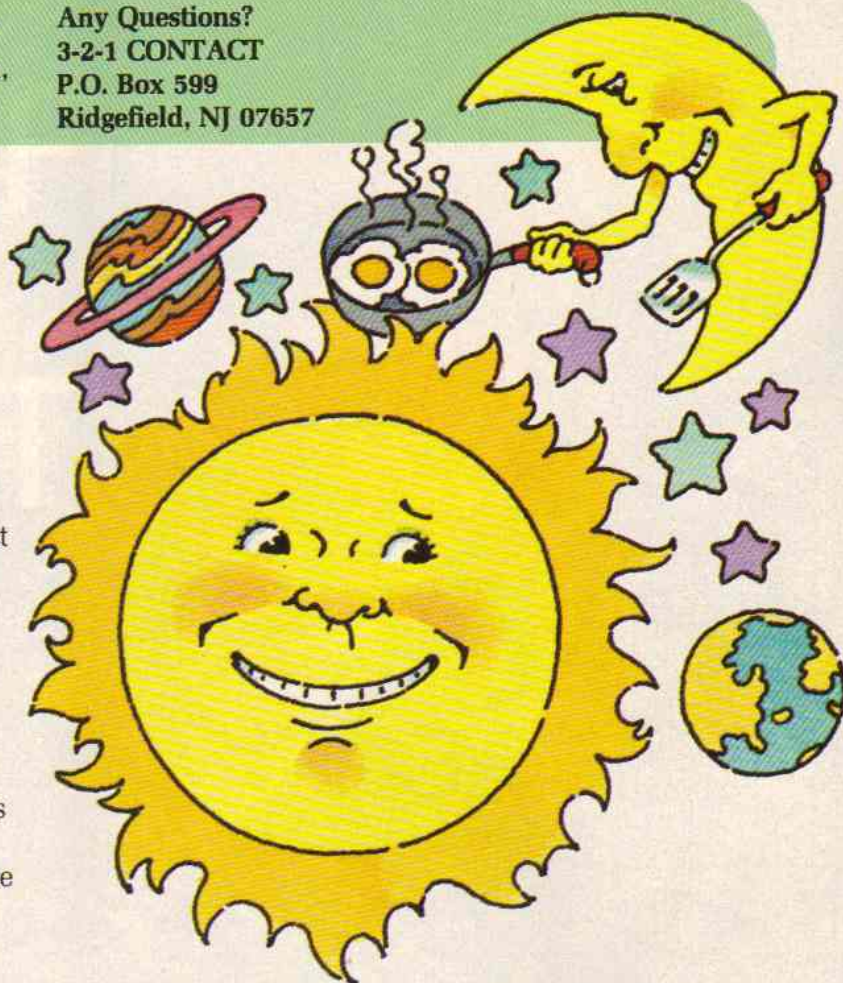
## If things need oxygen to burn and there's no oxygen in space, how does the fire stay on the sun?

The sun is not a ball of fire, even though it may look like one. It's actually a ball of tremendous energy so huge that a million earths could fit inside it. Even though oxygen gives life to fire, it's the wrong kind of fuel to keep the sun going.

The sun is really a thick cloud of swirling gases. They are made of tiny particles called atoms. The atoms dart around very quickly.

The swirling gases and speeding atoms cause tremendous pressure. Under pressure, the atoms crash into each other. They join together in a process called *nuclear fusion* (FYOO-zhun). The result is powerful heat and light.

Question sent by Tammy Davidson, Orlando, FL.



## How can a cactus grow in the desert?

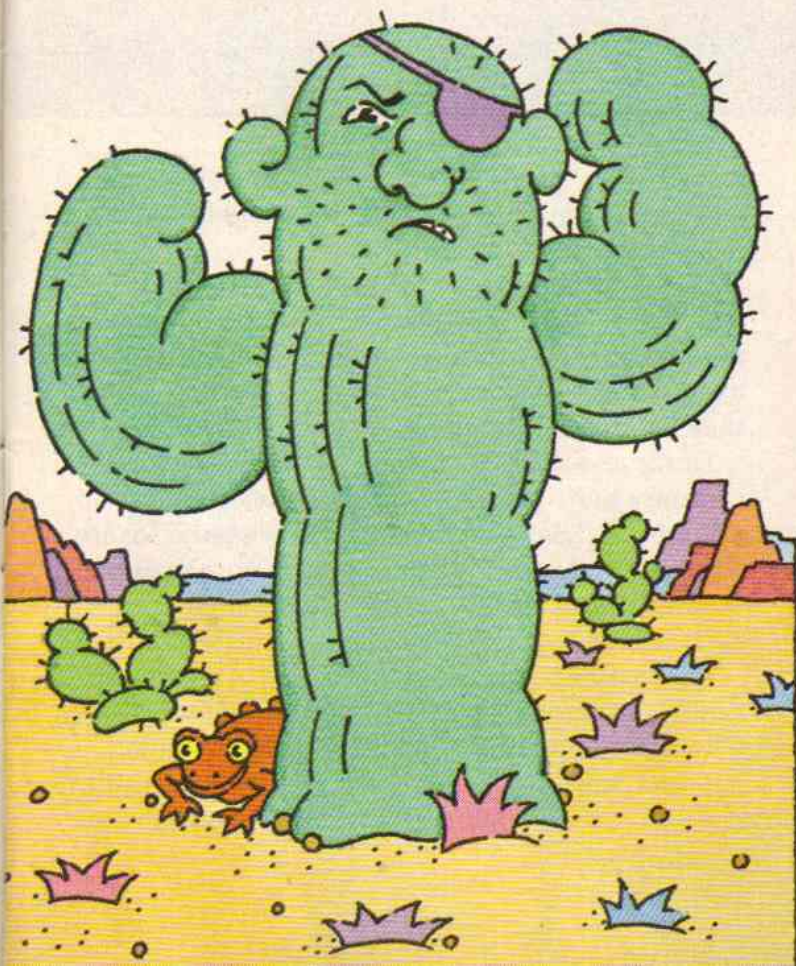
Suppose someone asked you to find one of the toughest plants in the world. The desert would be a good place to start. If something can survive there, it's got to be tough.

There are many different cactus plants. They all have one skill in common—their ability to survive. If a cactus was like other plants, it couldn't live in the desert. When deserts were forming millions of years ago, most plants died out. But the cactus adjusted to the desert. It developed long roots that spread out wide, directly under the sand. Cactus roots reach out, getting every drop of water that is available nearby.

Cactus plants also developed very thick bodies to help store as much water as possible. Cacti are waterproof, too. They're coated with wax. Being thick and waxy helps keep the water from escaping the plant.

Over the years the cactus also developed thin needles instead of leaves. They help keep water from escaping. And if a desert animal ever tries to eat a cactus, it gets a stinging surprise.

Question sent in by Valerie Sarazini, Shrewsbury, MA.







# IS ANYONE OUT THERE?

A radio telescope in the California desert listens for signals from deep space.

## SCIENTISTS SEARCH FOR LIFE IN SPACE

by Mark Kindley

Remember the visitor from outer space whom you may have seen in the movie "E.T."? Sure, he looked a little strange. But E.T. was what everyone hopes extraterrestrial creatures (life forms from space) might be like: smart, helpful, and fond of people.

Movies aside, what do you think extraterrestrials are like? Of course, no one knows for sure. In fact, no one really knows whether extraterrestrial creatures even exist. But now several scientists are working very hard to find out. Their project is called the Search for Extraterrestrial Intelligence. That's SETI for short.

### Listening with Big Ears

Frank Drake, a professor at Cornell University, is one of the scientists who organized SETI. Drake first thought about extraterrestrials when he was

eight years old. The idea that they might exist has fascinated him all his life.

Drake does not expect to ever see an extraterrestrial, though. And neither do any of the other members of the SETI team. At best, they hope to receive a radio message from the intelligent beings which they believe are living far out in the universe.

Drake and the SETI team aren't listening for ordinary radio messages like the ones you hear on your radio. The radio messages they search for are like hissing noises. They're coming from many different senders out in space—objects such as stars, galaxies, and even clouds of gas.

Drake uses a giant radio telescope to collect radio waves from space. The instrument works like a huge electronic ear. Using a large dish-shaped antenna, the telescope collects radio waves as they reach earth from outer space. The waves then are



fed into a receiver. The receiver turns radio waves into a form that can be studied by scientists.

Frank Drake has helped to develop better radio astronomy equipment. Because he is a pioneer in the search for life in outer space, Drake is known as "the father of SETI."

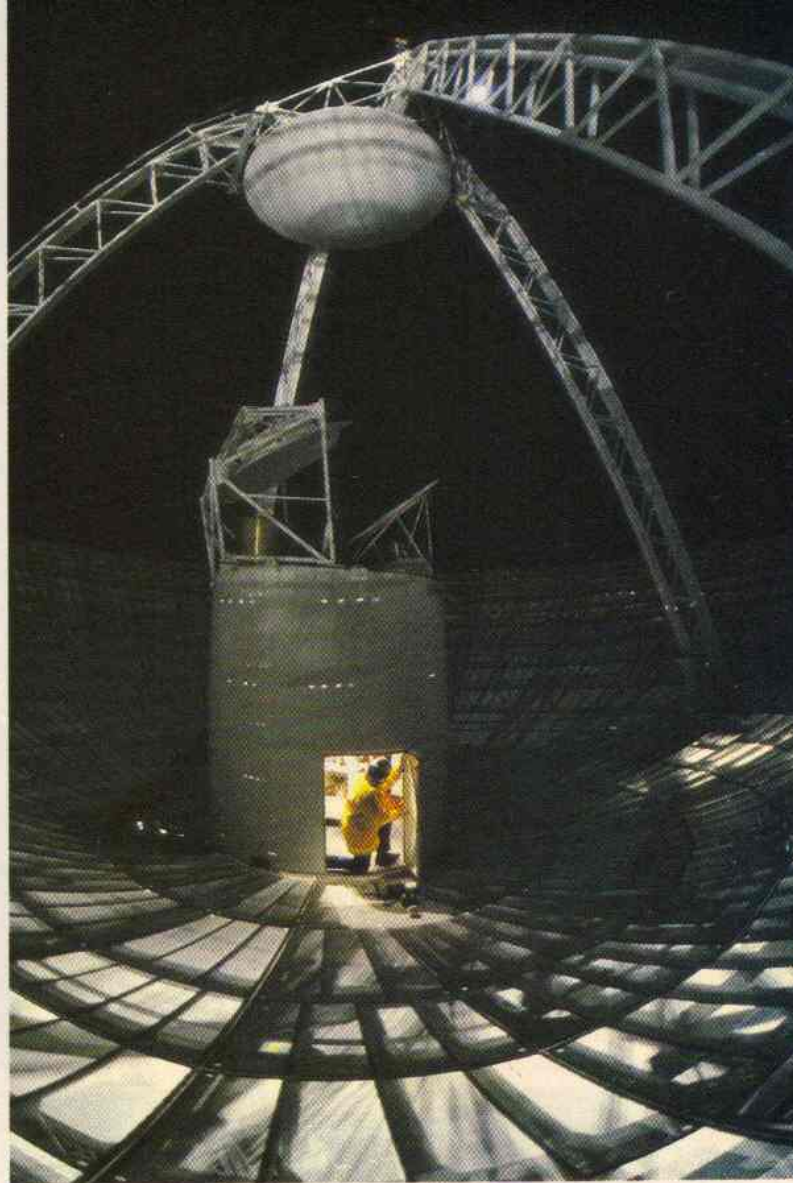
## Tuning In

Today many scientists have joined Drake's SETI team. Their most important helper is NASA's huge radio telescope in California's Mojave Desert. Its receiving dish is several times bigger than most houses. Under the dish are giant gears, much taller than a person. The gears are used to aim the dish at different points in the sky.

The dish constantly receives radio transmissions. Some of them are from man-made satellites. Some were caused by natural chemical activity on distant stars. But mixed in with all the other transmissions, there might be radio messages from life forms on other planets.

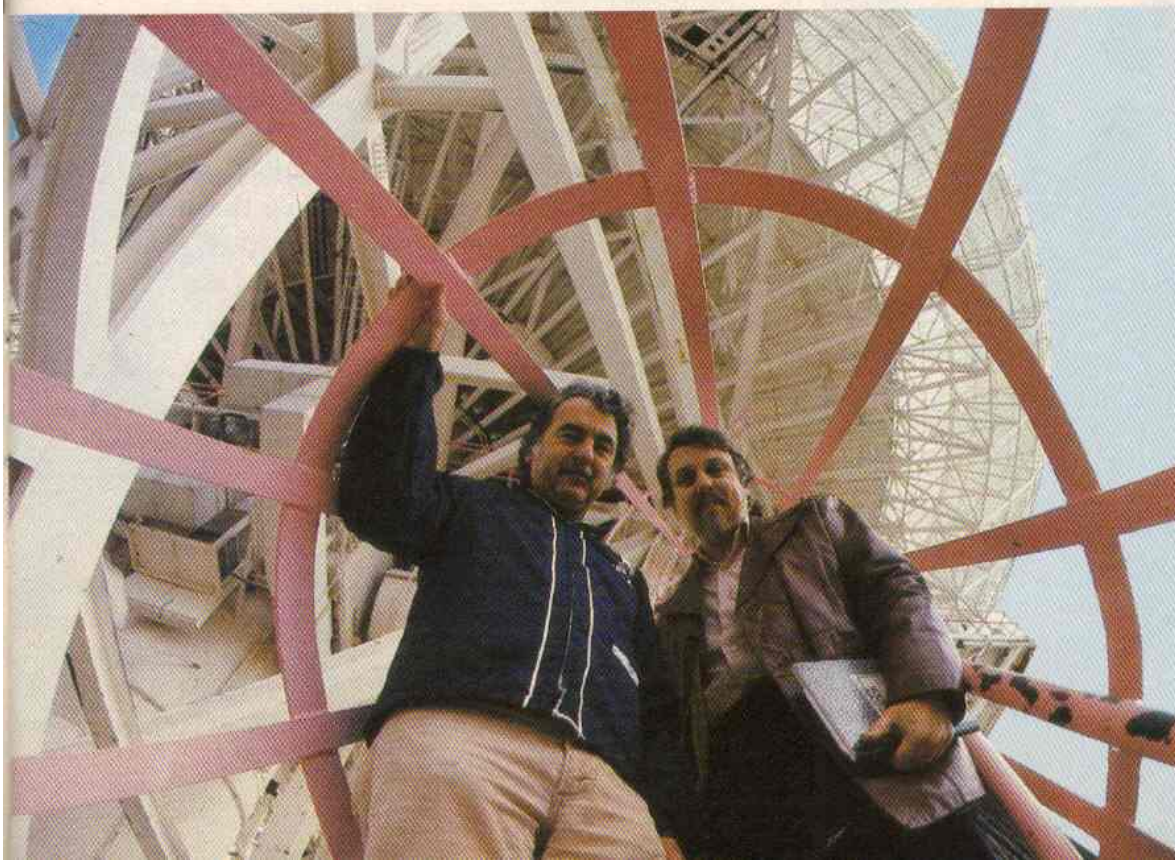
Actually, the SETI team says that picking up radio signals from millions of miles away is the easy part of their search. The hard part is sorting out a possible message from extraterrestrials from the other radio signals that the big telescope receives.

Scientists say there are as many as one thousand billion (1,000,000,000,000) channels that might carry messages from extraterrestrials. "It's like finding a needle in a haystack," Drake explains. ➡



**Above:** An engineer climbs inside the core of the telescope receiver to make adjustments to its delicate machinery.

**Left:** SETI scientists stand under the Mars Dish. A receiver that can pick up 8 million radio channels will be hooked up to this 210-foot radio telescope.





## Computers Enter the Act

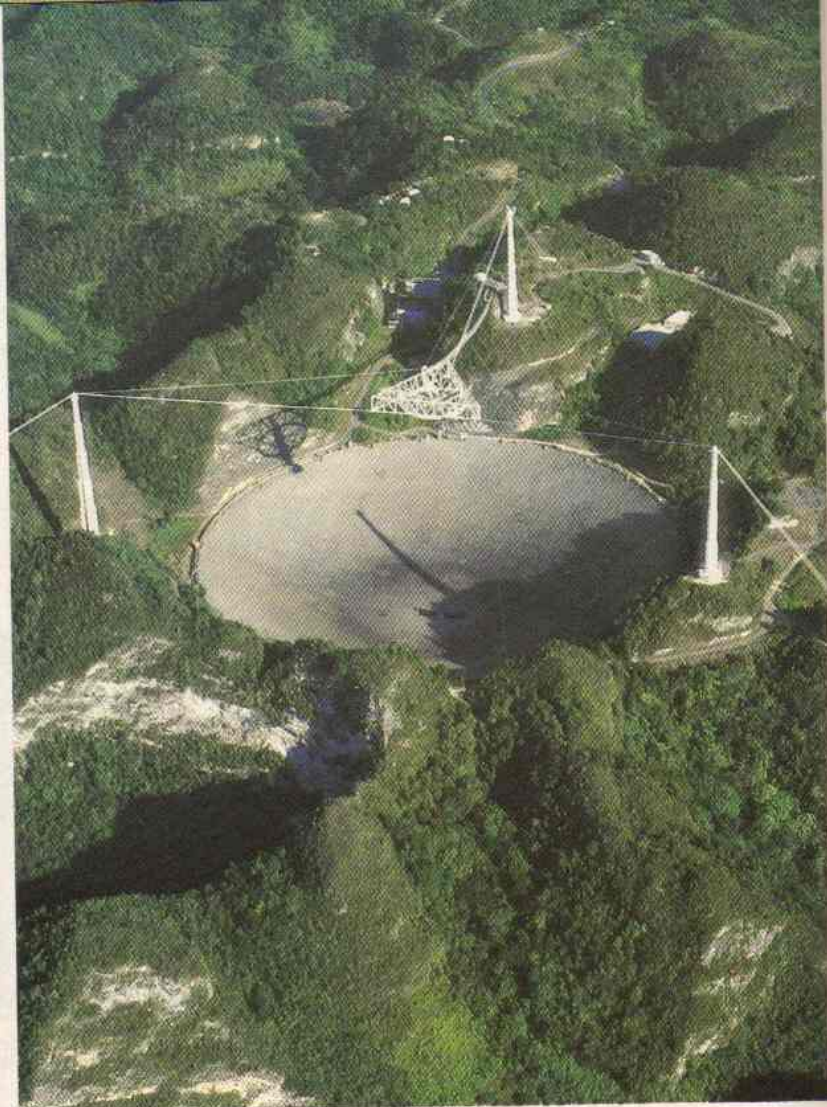
But now there's a new invention that helps sort through all the radio noises the telescopes pick up. A new type of computer is able to listen to eight million channels at one time. If any one of those channels is broadcasting a message from space, the computer will turn to it automatically. But still the odds are 250,000 to one that the computer will pick up the right channel at the right time.

Scientists say a message could take many forms. It could be just sound, something like static on a radio. Or it could be sound with pictures like a television station broadcasts. Or it might be in some other code form.

In any case, a message from extraterrestrials would probably not be in a language that people speak on earth. Drake says the warbling noise the spaceship made in the movie "Close Encounters of the Third Kind" is a likely sound for a real message from space.

And if a message does come, it would prove

**Right:** The Arecibo radio telescope in the mountains of Puerto Rico is the largest steerable radio telescope on earth.



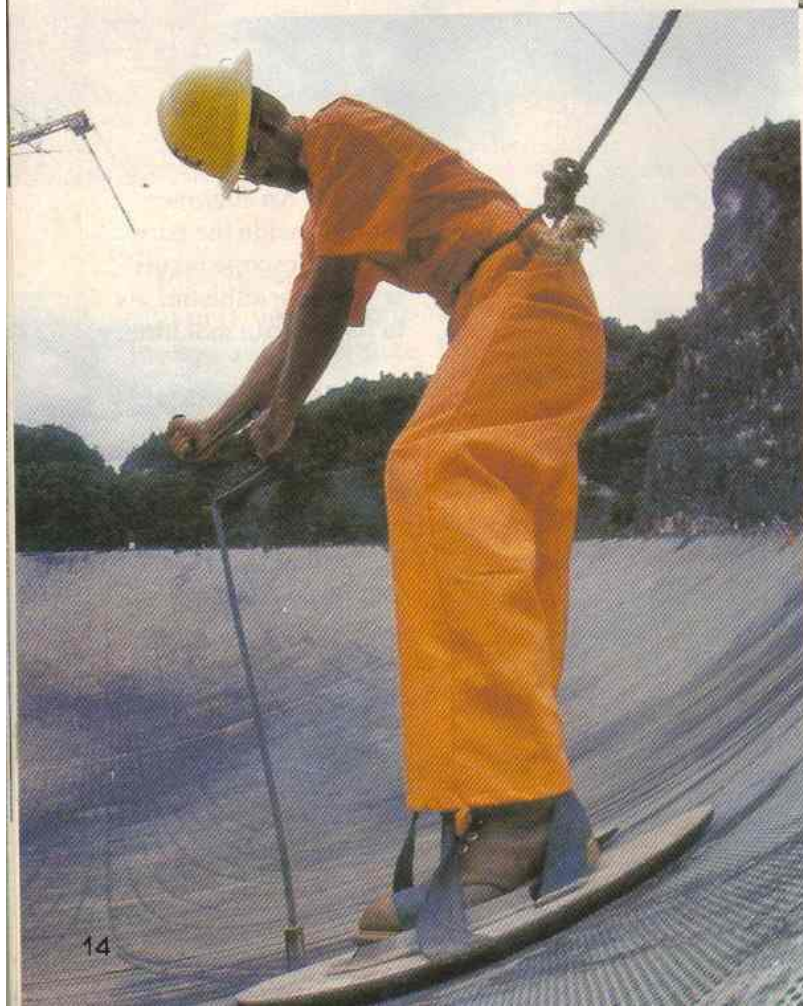
**Left:** A repair worker walks across the Arecibo dish using special shoes, curved to match the dish's surface.

that human beings are not alone in the universe. No one knows what the message might say. It could tell us about the nature of life on another planet. It might have a picture of the beings who live on another planet. Drake hopes the message will include instructions to follow to get even more information.

## Looking for the Real E.T.s

While the SETI team waits for that special message, Drake often wonders what the creatures who sent it might be like. Extraterrestrials could come in any shape or size. They probably wouldn't resemble humans, or any type of life form you are familiar with.

No matter how they might look, Drake believes that other intelligent creatures must exist on at least some of the other planets in the universe. He says earthlings haven't yet gotten to know their neighbors in space because they live so far away.





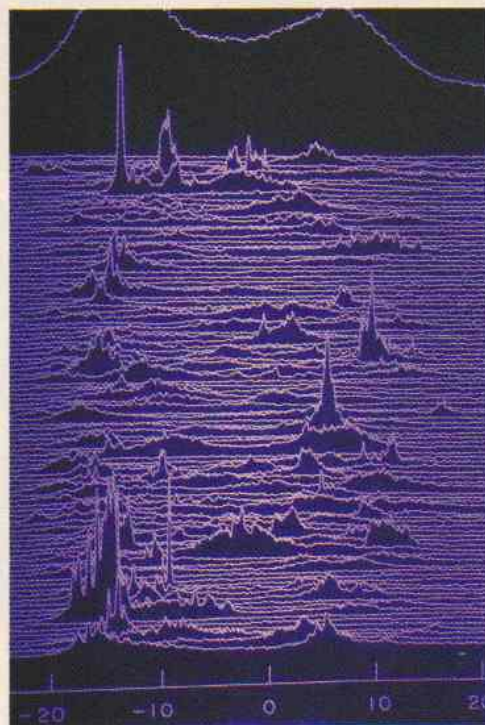
Drake isn't just waiting for extraterrestrials to contact earth, though. Radio telescopes can send messages as well as receive them. So 10 years ago, Drake sent the first message out into space. He included some information that would help extraterrestrials understand what people here are like. He listed the population of earth and named the chemicals that all living creatures on earth are made of. (Turn to the poster and see for yourself.)

### The Search Goes On

Some scientists do not believe there is life on other planets. Frank Tipler, a professor at Tulane University, says that if intelligent life slightly more advanced than earth's does exist elsewhere in the universe, the creatures would have found a simple, cheap way to travel to earth. "Since they are not here," he says, "they do not exist."

Drake disagrees, of course. He believes that people have not yet found other life out there because the universe is such a big place.

So Drake and other members of the SETI team plan to stay tuned to the giant radio telescopes that have already scanned over 1,000 stars. There is no message yet, but Drake and his team are not discouraged. After all, even in the movie, it took E.T. a while to phone home!



**Above:** Radio signals from space coming into Arecibo are changed into these electronic images for scientists to read.

**Below:** With telescopes like these, SETI scientists have scanned over 1,000 stars listening for signals.





# List of the Month Bedtime Stories

by Shaaron Cosner

Most people find a cozy place to curl up when they catch a few ZZZs. But when animals sack out, their sleeping places may be really wacky.

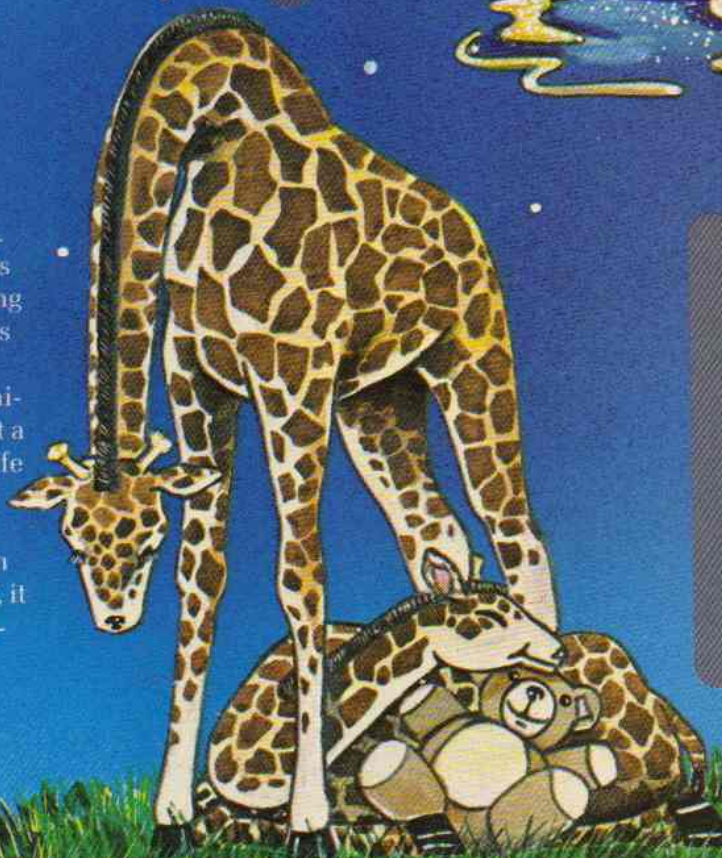


**Getting a Good Grip** The orangutan is an ape which sleeps in the trees. It uses its long hairy arms to grab a branch on each side of its body. The orangutan holds on so tightly that it never falls—even when the wind blows very hard. And that's good. This ape's bed is 40 feet (12 m) up in the air! So falling out of bed could be a real bummer.

**Birds of a Feather** Bobwhites sleep in a circle with their heads facing outward. Huddling together keeps the birds warm. These birds sleep very lightly. This way, one of the bobwhites will hear a fox if it tries to sneak up on them. When danger lurks, each bobwhite flies off in a different direction. When the fox goes away, they make a new circle and go back to sleep.



**A Tall Snooze** A giraffe often sleeps standing up. Special joints in its knees lock to keep it from falling over. Usually the giraffe's long neck just hangs down. Sometimes the animal rests its neck against a nearby tree. A baby giraffe snoozes lying down, however, with its neck twisted around to rest on its back. When it's older, it will learn to sleep standing up, too.



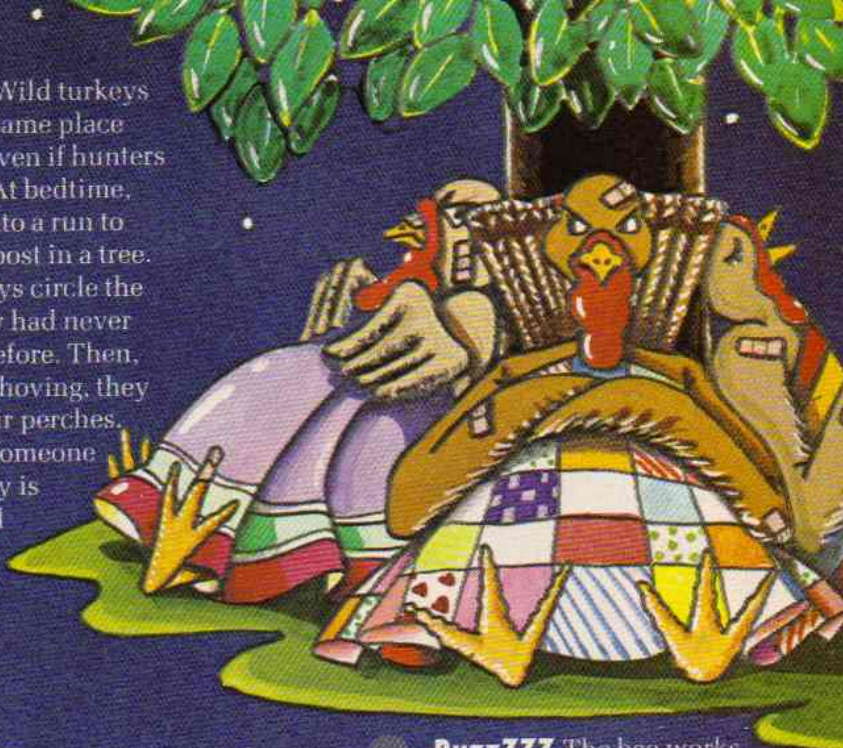
**Second-Hand Beds** The hermit crab doesn't mind using someone else's bed. This critter finds a sea snail shell to sleep in. The crab uses the shell every night until it can no longer fit. Then it finds a larger shell and starts all over again. Soon some younger hermit crab moves into the old shell. It's like musical shells instead of musical chairs.





**Pooped Puffers** Puffers are fish that live in water but sleep on shore. They pile up, two or three deep, on the beach in shallow water. There, they use their fins to toss sand up over their backs. That's an effort to keep themselves warm. It's also a funny sight to see. Just imagine a big sandy stack of sleeping fish!

**Turkey Trot** Wild turkeys sleep in the same place each night, even if hunters are around. At bedtime, they break into a run to reach their roost in a tree. All the turkeys circle the tree as if they had never slept there before. Then, with much shoving, they settle on their perches. Is that why someone who acts silly is called a "real turkey"?



**DuzzZZZ** The bee works full time to make a winter supply of honey. Then it catches up on sleep for a few nights. Some bees sleep in clusters to keep warm. There may be up to 300 bees in one clump. When the hive gets too cool, the bees wake up and fan their wings together to warm up. A lot of wing beating can raise the temperature several degrees.

**Water Beds** The brown seal sinks to the bottom of the sea when it sleeps. It rests there about 20 minutes, holding its breath. Still asleep, it rises to the surface and takes several deep breaths. Then the seal sinks back down to the bottom. The whole nap is spent bobbing up and down like a yo-yo. You would think a brown seal would be very tired when it wakes up. But it's not!





# Contact Report



The latest in headgear for hay fever sufferers?

**Nothing to Sneeze At** Colorful flowers are pleasing to look at. But if you have hay fever, a flower's pollen can make you feel miserable.

Now, researchers at the University of California may have some good news for hay fever sufferers. Researchers there are developing new varieties of a flower called gerbera (GER-buh-ruh). The new type of gerbera is perfect for people with allergies. Its pollen doesn't blow around. So people won't inhale the pollen and start sneezing or get a runny nose.

The original gerberas came from Africa. "The new gerbera will give people a flower that is longer lasting, prettier, and healthier," says researcher Dana Drennan.

Soon you may be seeing a gerbera yourself. If you have hay fever, you can sniff the new flower and say "Ah-h-h," not "Ah-CHOO!"

—Written by Janet Meizel

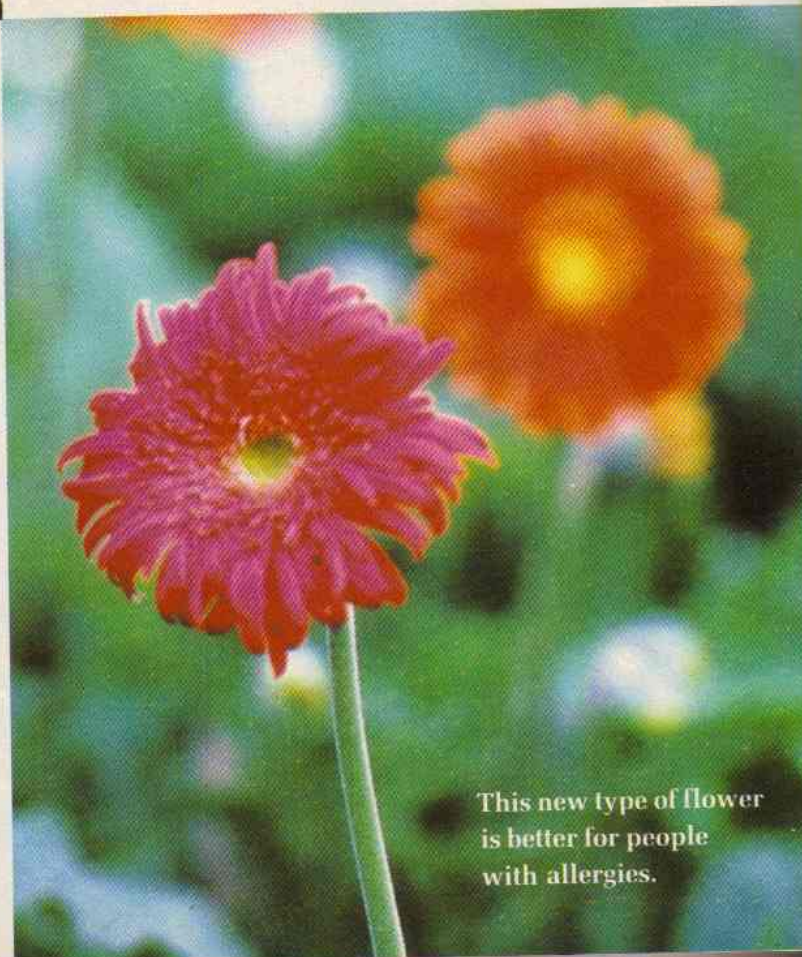
**Helpful Helmets?** Hay fever sufferers may be getting help from more than just a new type of flower. Some people say they are getting relief from hay fever by using a new invention. They are putting their heads into Hinchcliff Helmets.

The clear plastic helmet was designed by Richard Hinchcliffe. The inventor was looking for a way to ease his own hay fever. He took a large plastic flowerpot and attached it to a vacuum cleaner hose. Then a friend suggested that Hinchcliffe add a fan and an air filter to his gadget. This would help the helmet-wearer breathe pollen-free air.

Mr. Hinchcliffe discovered that he could breathe better with his invention. How does it work? Nobody knows for sure—not even Hinchcliffe himself!

—Written by Michele Lyons

Story suggested by Grace Lu, San Jose, CA.



This new type of flower is better for people with allergies.



# Contact Report



T.J. aims his solar cooker to catch the sun's rays. Solar cookers can bake anything from hot dogs to cookies.

**Solar Supper** Lots of people cook hot dogs in the sun. But Terry (TJ) Anich, 11, cooked his hot dogs with the sun. TJ used a solar cooker to make 25 pounds of franks for the First Annual Solar Potluck in Tucson, Arizona.

The Citizens for Solar Cookery held the all-day Solar Potluck to help people learn about solar energy. Over 600 people tried out all sorts of goodies. Besides TJ's franks, people baked bread and even chocolate-chip cookies in an enormous solar cooker.

One man roasted a 20-pound turkey. He had to turn his solar cooker to the sun several times because it took hours for the turkey to bake. Each of TJ's hot dogs took only 15 minutes to cook. He didn't have to turn his cooker at all.

Twenty people prepared the food. Many of them made their own solar cookers. The cookers were all sizes and shapes. Some were small square boxes lined with aluminum foil. Others

were big bowl-shaped contraptions with many mirrors.

TJ Anich worked on the Solar Potluck to help his friend Joe Blankenship. Mr. Blankenship has been interested in solar energy since the days when he went prospecting for gold with TJ's grandfather. They used to cook rabbits in a box with four mirrors. While the men searched for gold, the sun cooked their dinner.

—Written by Eldonna Fisher

**What's That?** Have you read about a kid who invented something new? Or one who set a new science record? Then cut out the story and send it to us. If we use it you'll get a CONTACT T-shirt. Include your name, address, T-shirt size and the newspaper or magazine the story came from. Write to: **The CONTACT Report**

P.O. Box 599

Ridgefield, NJ 07657



# Hello Out There!

To extraterrestrials—if they exist—these weird looking symbols may be a very important message. They're the first hello that earthlings have ever sent into outer space.

Scientists wrote this cosmic telegram in computer language. Then, 10 years ago, it was beamed out across the galaxies with the help of a radio telescope.

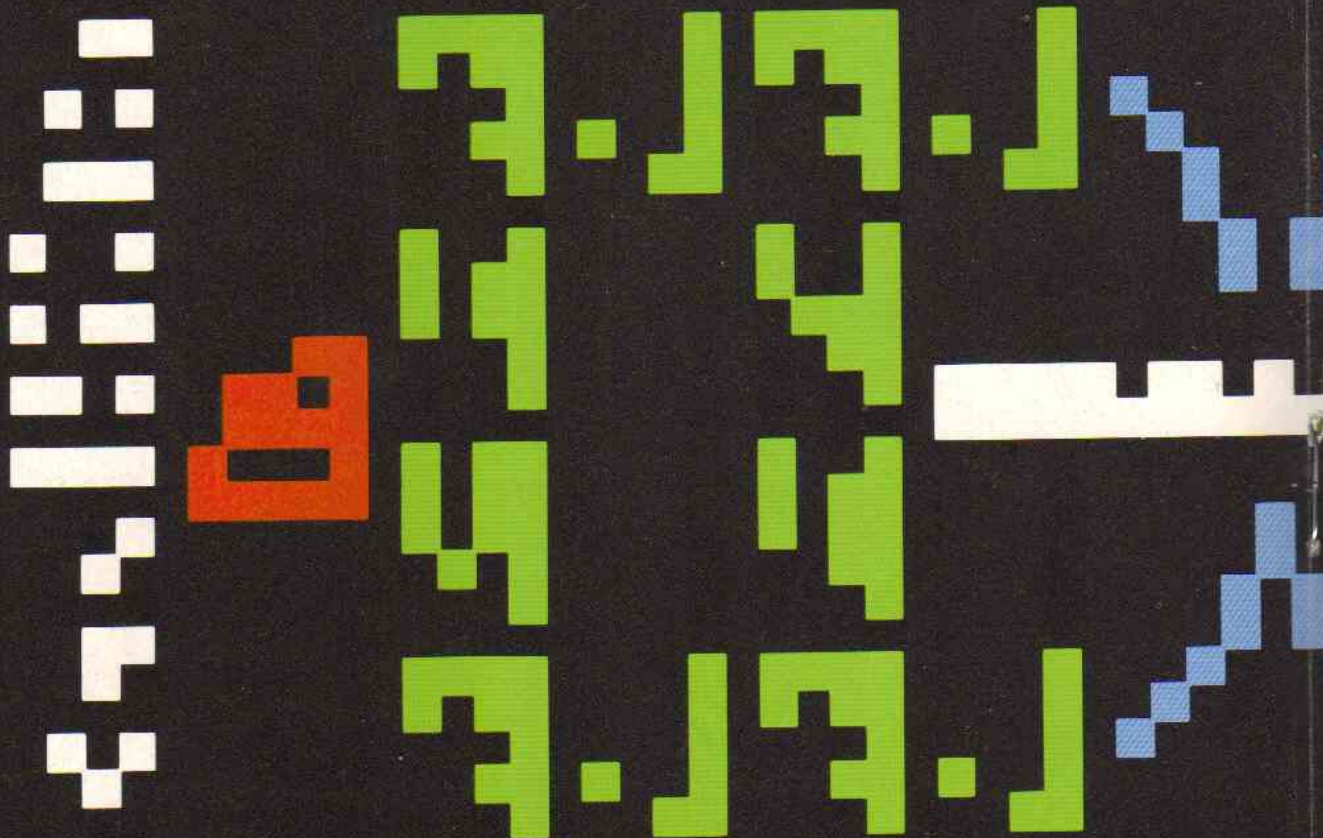
Scientists hope that if this message reaches any extraterrestrials, they will learn some important facts about life on earth.

**Arithmetic:** These are symbols for the numbers one through ten.

**Chemistry:** The red symbol in the middle stands for the five important elements of life on earth—hydrogen, carbon, nitrogen, oxygen, and phosphorus.

**Genetics:** Twelve green figures show the materials that make up DNA—the major building block for life on earth.

**Life:** The blue symbol that looks like part of a figure eight stands for life which develops



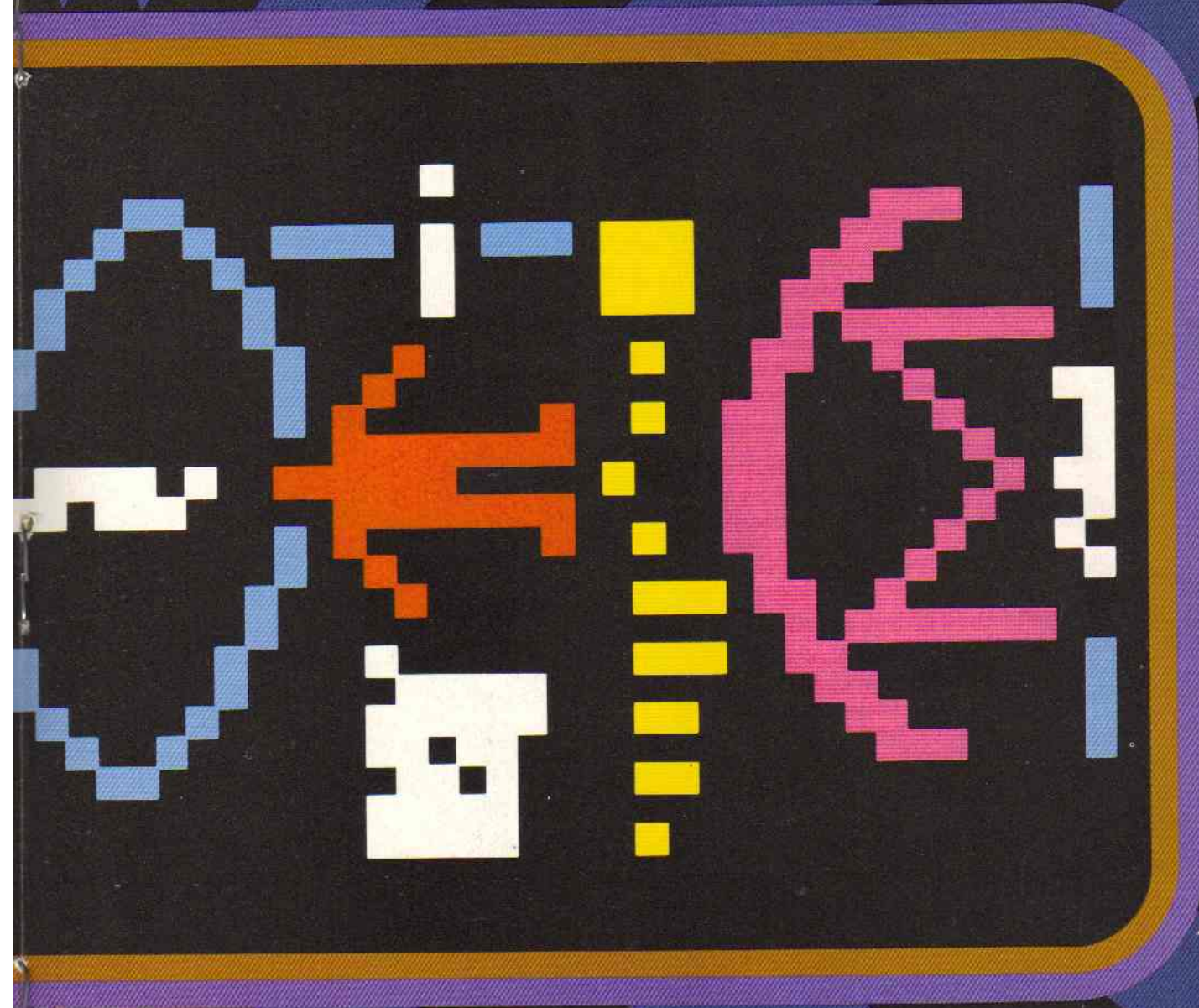


**People:** The red stick figure in the middle is a human. The white symbol indicates that an adult on earth could be five feet, 10 inches tall.

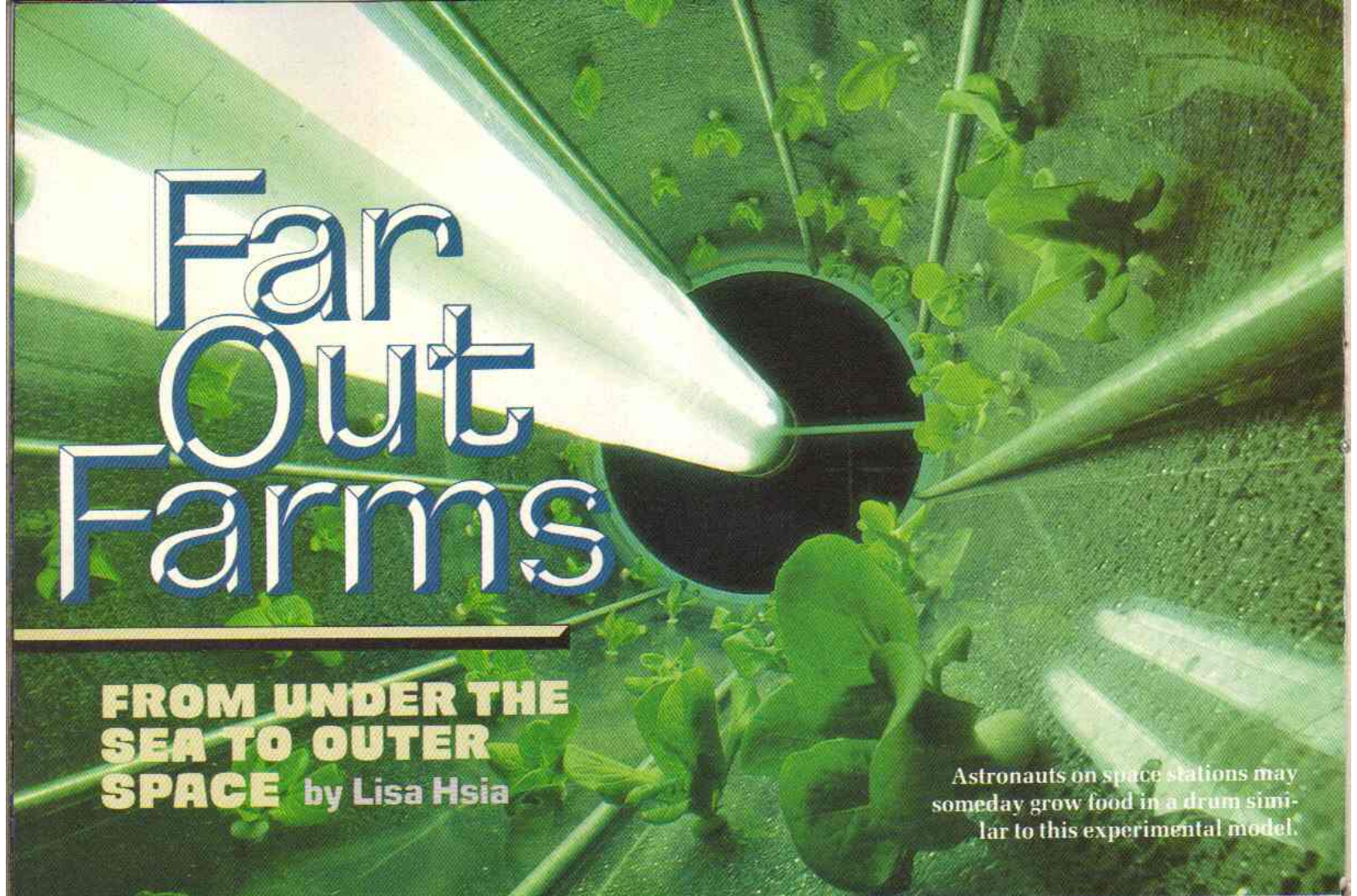
**Telescope:** The pink figure is the radio telescope in Puerto Rico that sent this message. The telescope's size is shown below.

**Population:** This large white block would tell extraterrestrials that earth's population is four billion.

**Solar System:** The large yellow block on the right stands for the sun. Other blocks stand for the nine planets of the solar system. They are shown in order from the sun and in relative size. Earth's symbol is closest to the stick figure because it's the planet where humans live.







# Far Out Farms

**FROM UNDER THE SEA TO OUTER SPACE** by Lisa Hsia

Astronauts on space stations may someday grow food in a drum similar to this experimental model.

Every day at Florida's EPCOT Center, visitors climb into boats for a special trip. They float into a building where plants grow everywhere—on the floor, on walls, in midair. Tomatoes glide by on conveyor belts. Lettuce grows from pieces of white plastic. Buttons flash on computers that control the lighting and watering of the plants.

Today, this greenhouse is just an experiment. But many food experts and scientists think the food-growing world that EPCOT shows could someday become real—and very important.

Why? The world's population is growing—fast. Today, there are 4½ billion people in the world. By the time you are 30, there will be 6½ billion. These people will take up much of the earth's food-growing space. So new places and ways have to be found to grow enough healthful food to feed the world's increasing population.

Perhaps the food in your future will be grown with the help of computers or strange potions. Greenhouses like EPCOT's might help future farmers grow food in deserts, under the sea, or even in space. Some foods might not resemble anything you eat today. Food may never be the same again.

## Food From Down Under

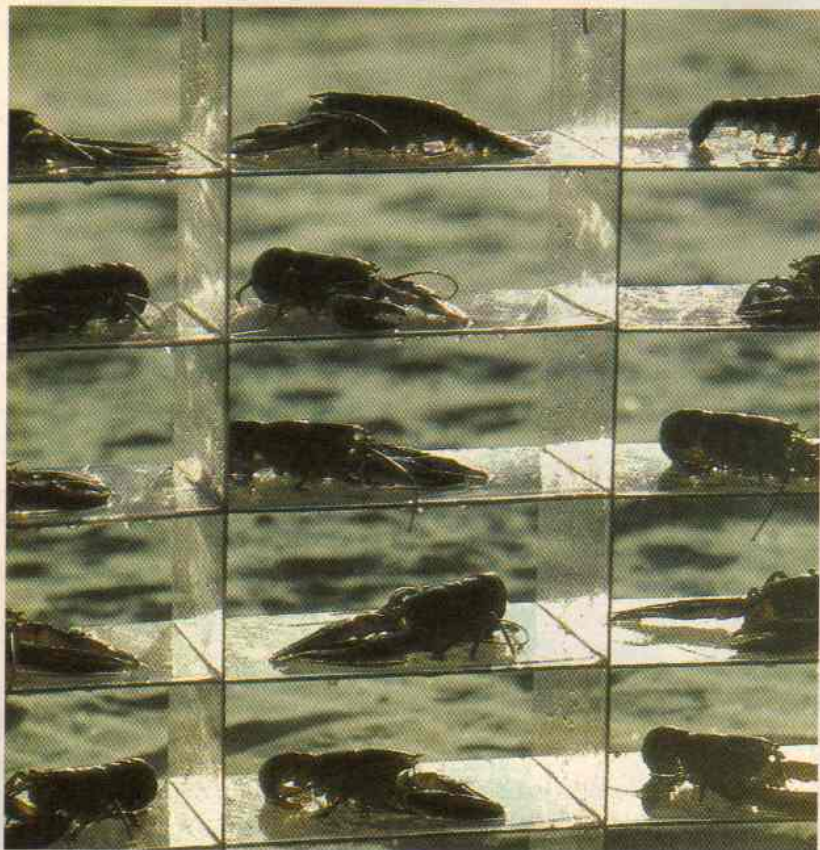
Imagine a farm with rows and rows of plants. They stretch as far as the eye can see. A farmer drives a mechanical harvester through the field gathering the crop. It sounds like a pretty normal scene—until you learn that the farm is underwater!

Of course, farmers aren't driving harvesters on the ocean floor right now. But farming is already going on in the sea. Someday, when people settle on the dry land that is now used for growing food, underwater farms could come in handy.

Today's underwater farming, called aquaculture (AK-wa-KUL-chur), is not a big business. People are growing sea plants such as kelp and algae in small, offshore water fields in California and Japan. Some people eat the high-protein plants. Kelp is even used as an ingredient in some ice creams. Someday, there could be huge farms on the sea floor. They could grow hundreds of thousands of acres of plants for food and fuel.

There's another kind of underwater farming being done now that isn't farming plants. It's farming fish! Salmon ranchers grow fish in pens that float in the sea. Some shellfish, such as clams,





**Left:** Fish farms are sprouting. These lobsters must be raised in separate boxes underwater. If put together, they would fight.

grow from ropes dangling into the water from rafts. Lobsters are also raised in underwater cages.

"Aquaculture accounts for 11 percent of the fish eaten in the United States," says Peter Cook, an aquaculture expert. That means there's a good chance that at least some of the fish you eat already comes from one of these fish farms.

### Space Food

It's the year 2020, and you are an astronaut assigned to Space Station Delta orbiting earth. It's dinner time, and you're starving. So you float over to the agri-center. You enter a room full of plants. Ahead of you, in a spinning plastic drum, leaves of spinach are growing from a "field" of plastic. You push a button to stop the drum and pick your salad for dinner.

This far-out scene might come true in the future. Today, when astronauts blast into space they take their food with them. But the cost of sending up that food is huge—about \$1,000 per pound. In the future, people may be spending more time in space—even living in orbit above earth. Finding a way for these space residents to grow their own food would save lots of money—and provide fresher, tastier meals for them, too.

The spinning space drum is an idea already being tested at Arizona's Environmental Research Laboratory (ERL). Scientists there experiment with new ways to grow food. Plants grow through holes in the plastic sides of the drum, toward a light in its center. The drum spins about 50 times a minute. The spinning motion creates a force like gravity. On earth, gravity "tells" ➡



**Left:** Someday many plants may be grown without soil. The plants are sprayed with a liquid which contains all the food they need.



Winged beans are just one of the new food crops being discovered in remote areas. Some people already eat these foods. In the future, many more may be part of your diet.



plant roots to grow down. In space, the force would help roots know which way to grow also—outward away from the drum. All this work may one day make a space garden a not-so-far-out possibility.

### High-Rise Food

When people in cities ran out of room to spread out, they built upward and made skyscrapers. When future farmers need more space, they might use the same idea. At least, that's what Merle Jensen thinks. He is a plant specialist at the Environmental Research Lab. Regular tomato plants grow about four feet tall. But Dr. Jensen has to stand on stilts to tend his eight-foot-tall plants! These taller plants produce more food in the same space.

Another space saver is to grow several plants in one spot. In one corner of the lab, melons grow dangling over a pool of water. On the water, heads of lettuce grow floating on pieces of styrofoam. Fish are being raised in the water. Still, not every part of the project has been foolproof. "One kind of fish we tried to raise was eating the lettuce," says Dr. Jensen.

### New Foods

Have you ever heard of a honeylope? How about a buffalo gourd? Probably not. But you may be eating these tasty morsels in the future.

Plant engineers, scientists who come up

with new kinds of plants, have come up with new plants like the honeylope—part cantaloupe and part honeydew melon.

Plant engineers are also tinkering with cells of plants in laboratory dishes. They are creating plants that resist disease, or can grow in harsh climates, or have other special qualities.

One such success is probably in your cat-sup bottle. Tomatoes are being grown now with tougher skins and less juice. They don't taste as good as old-fashioned tomatoes. And they may not be as healthful. But the point is that they are hard enough to be picked by machines without getting smushed.

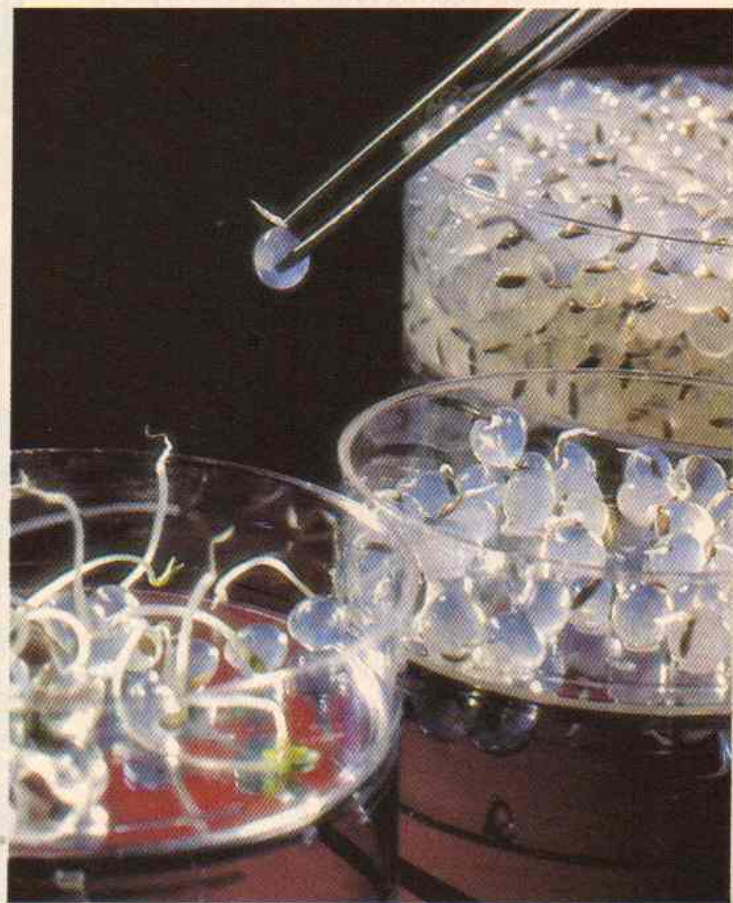
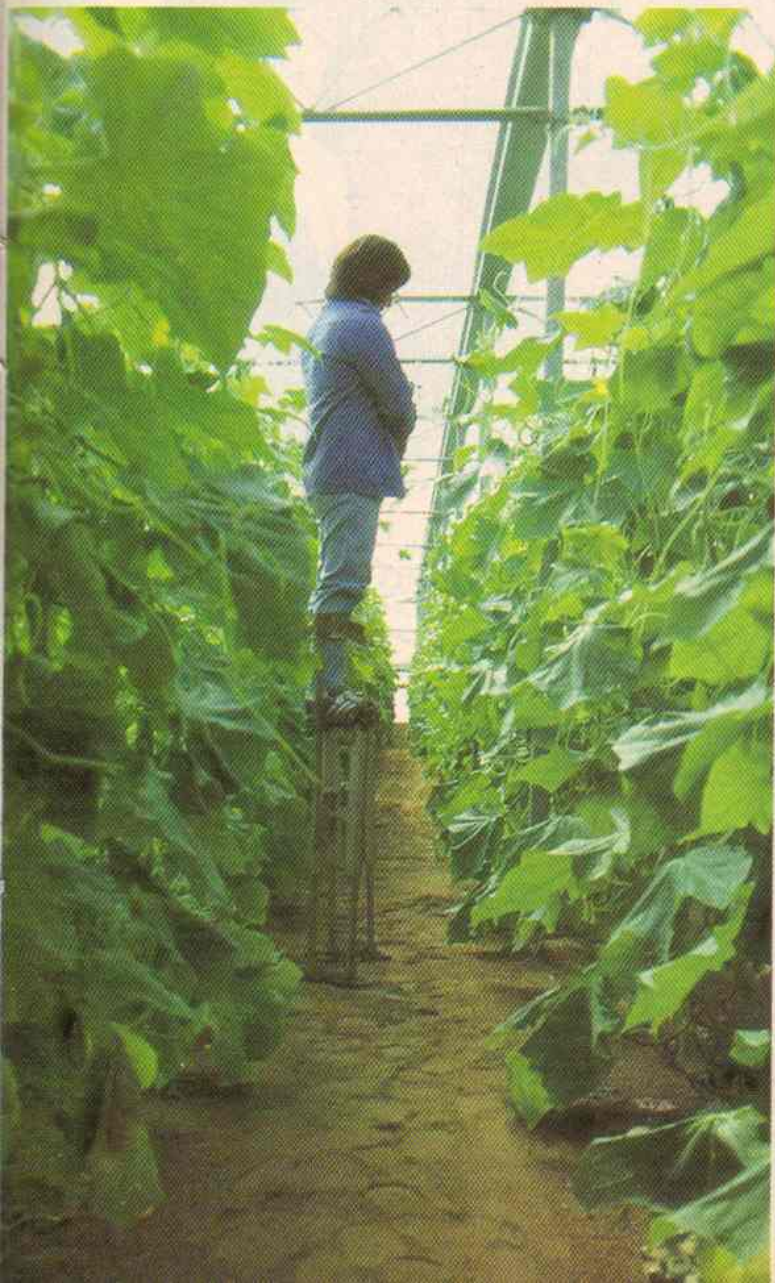
Some scientists think that our best hope for future food is not new-fangled foods. They think the answer is to use foods we've got right here on earth—but have never used.

Today, there are still many unknown plants. About 80,000 could be eaten. But people on earth only use about 3,000. You probably don't use more than 30 or 40. The reason people don't eat the rest is because they may not be used to them.

Some scientists are now taking a closer look at plants that have been ignored or considered poisonous in the past. So one day you may sit down to your favorite dish—a buffalo gourd, marama bean, and winged bean salad. Now that's food for thought!



**Right:** Scientists are experimenting with new types of plants that will be healthier and stronger than present crops.



**Above:** These lettuce seeds were created in a lab from plant cells, then wrapped in a coating of protective chemicals.

**Left:** These tomato plants are eight feet high—twice as high as the average tomato plant. Workers must tend the tall tomatoes on stilts.



# Dig This!

You don't have to go on an archaeological dig to find out about the past. Here are a few ideas to dig into.

## Look Around You

On pages 4–7, you read how archeologists are like detectives. They dig up objects that give clues to how people lived in the past. Now here's your chance to do some detective work. You don't even need digging tools—just a sharp eye for what's around you.

- Did Indians once live in your area? If you live near woods or a forest, be on the lookout for Indian arrowheads.
- Look for cornerstones on buildings. Cornerstones are bricks or stones with dates on them. They tell you when a building was built. You can usually find cornerstones in the lower corners of buildings. What is the oldest building you can find?
- Keep an eye out for statues, monuments, and historic markers on streets or buildings. Reading them can tell you a lot about the people and events of your town's past.
- Visit an old cemetery with an adult. The writing on tombstones can tell you how long people lived and possibly how they died and who their parents and children were.

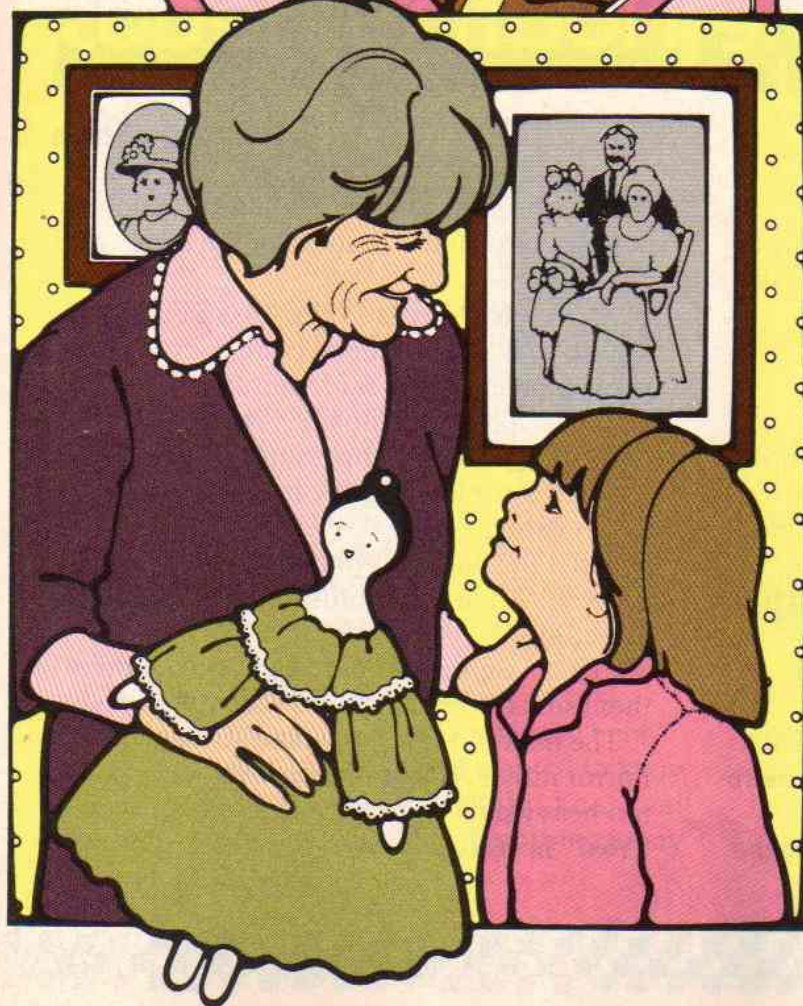
## Go On A Scavenger Hunt

If you would like to do your digging closer to home, you can. You might be surprised at all the clues to your family's past you can discover in your own home.

Take a good look in your attic, basement, garage, in the back of closets—any nook or cranny around your house. You might find an old record player or records, some old books, or photographs. You might discover clothes or jewelry







that belonged to your grandmother. Imagine coming across a toy your dad played with when he was a kid.

Get your parents' permission to collect some of the objects you find. (It's time for some spring cleaning, anyway!) Then ask your parents and other members of your family to tell you about your discoveries. You might be surprised at what you will find out about your family's past.

### Be A Reporter

People can tell you a lot about the past—if you ask them. See how good a reporter you can be. Talk to older people around you—grandparents, aunts, uncles, neighbors—about what it was like when they were growing up. What was school like? What games did kids play? If people were born in another country, ask when they came here, why, and what it was like for them at first. Have the person tell you about the most exciting invention or discovery they can remember. Are there any famous people they knew or can remember something special about?

You might want to tape record your conversation or take notes. Write a story about what you find out and send it to us. We'll share some of them in a future issue of the magazine. Send your stories to:

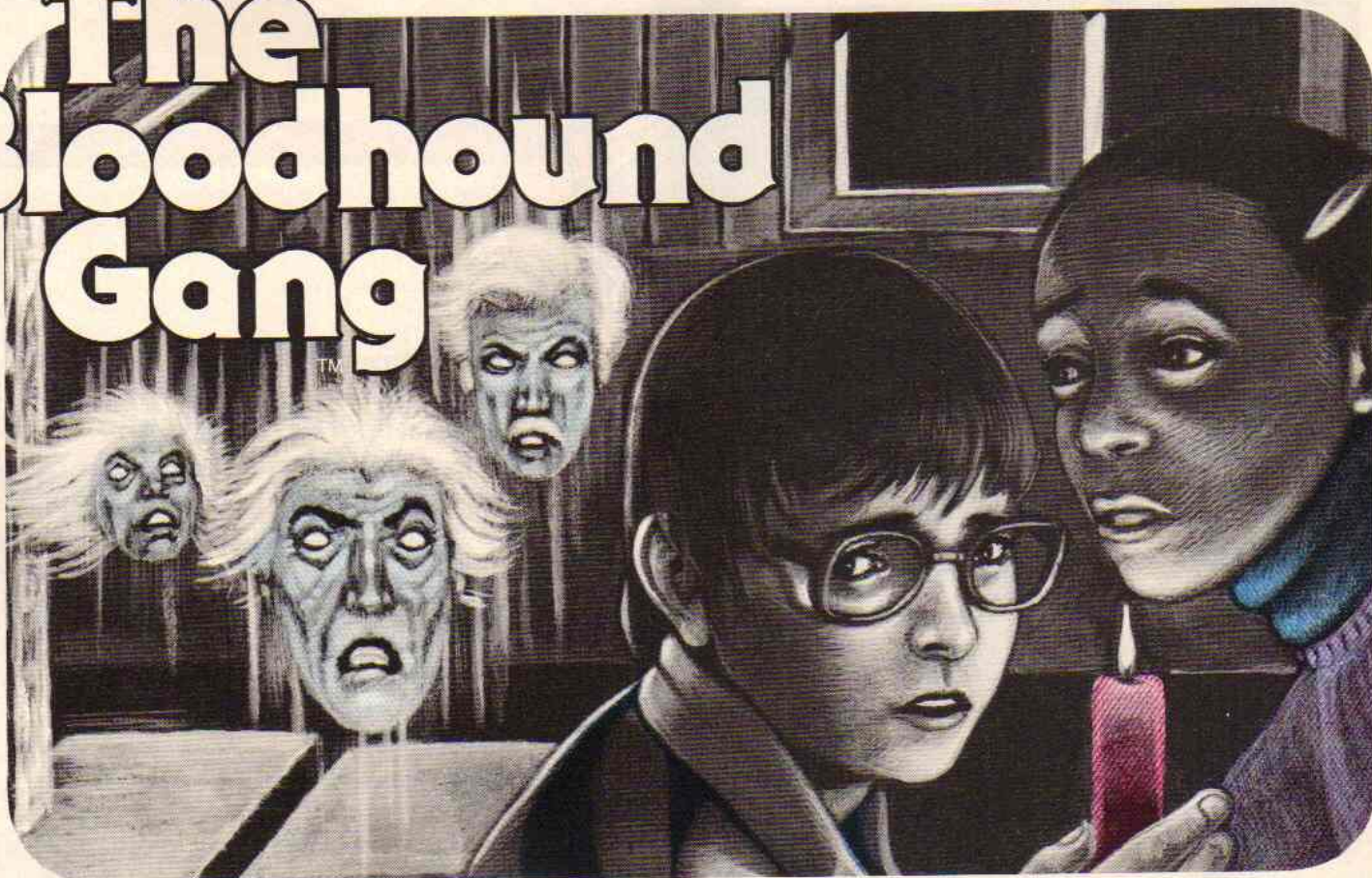
**3-2-1 CONTACT: Be a Reporter**  
P.O. Box 599  
Ridgefield, NJ 07657

### Digging Some More

Libraries have lots of great books on archeologists and what they do. You can also find books on the history of your town and people who once lived there. Plus you can get tips on discovering the history of your own family. Ask the librarian to help you check it out.



# The Bloodhound Gang



## The Case of the Floating Heads

Part One

by George Shea

Skip and Ricardo walked into the Bloodhound Gang office to find Vikki reading a note. "It's a message from Mr. Bloodhound," she announced. "Guess where he wants us to go tonight?"

"Where?" Ricardo asked.

"To a haunted house!" she exclaimed. "There's a woman named Helen Macduff who lives in the big old mansion on the northern edge of town. She's a friend of Mr. Bloodhound," Vikki continued. "She says her house seems loaded with ghosts. She wants us to find out if they're real."

"Come on, what are we waiting for?" said Skip.

"There's just one more thing," replied Vikki. "Mr. Bloodhound says he wants us to sleep there tonight."

It was growing dark as the Gang walked by the

lake on the edge of town. "Mr. Bloodhound's note says the house is south of the lake," said Ricardo.

"But which way is south?" asked Vikki.

Skip took a small metal compass out of his pocket. "Watch," he said, pointing to the needle on the face of the compass. "See? The needle is pointing north. A compass needle always points north. It's attracted by the magnetic pull of the North Pole."

"So if the needle is pointing north . . ." said Ricardo, "then south must be in the opposite direction."

"That's right," replied Skip, and the three of them set off toward the old Macduff mansion.

The dark old house seemed straight out of a horror movie. Skip rang the doorbell. Soon, a tall heavy man wearing a dark suit answered. "Yes?" he asked.



"We're the Bloodhound Gang," spoke up Vikki. "We're here to see Helen Macduff."

The butler gave them a nasty look as he went to get her. A minute later, a blond nervous-looking woman walked quickly to the front door.

"Are you Helen Macduff?" Vikki asked her.

"No," answered the woman. "I'm Cleo Macduff, Helen's sister. Can I help you?"

"We're the Bloodhound Gang," Ricardo explained. "Mr. Bloodhound sent us to investigate the ghost problem."

"Well, if you're looking for ghosts, this place is full of them," said Cleo Macduff. Then she added in a lower voice, "I'm really afraid my sister isn't safe here. I wish she would leave."

Just then, a horn sounded outside the door. "There's my taxi," said Cleo Macduff. "I'm getting out of here. If I stay another night, I'll go crazy," she said as she hurried out the front door.

A few minutes later, a short gray-haired woman came down the stairs. "I'm Helen Macduff," she said with a smile as she walked up to them. "And you three are, I presume, the Bloodhound Gang."

"That's right," said Skip as he shook her hand.

"Could you tell us something about your ghost problem?" Vikki asked.

"Sometimes in the middle of the night I hear the sound of screaming from the basement. When I go down there, I see heads floating in the air."

"Heads? What sort of heads?" Ricardo asked.

"They're long-dead members of my family. You can see their pictures hanging all over the house."

"Where do you see these ghosts?" Vikki asked.

"They are always in the same place," Helen Macduff replied. "Against the back windows in the basement. Actually, it looks as though the ghosts are outside the windows. But they make so much noise I know they must be inside."

"Have you ever considered moving?" Skip asked.

"No," Helen Macduff answered. "This remains my home only as long as I stay here."

"What do you mean?" Vikki wanted to know.

"When my father died, he left this house and the family fortune to me. He left nothing to my

sister because she made so much money in the cosmetics business. But I keep everything only if I stay here. If I move out, I lose it all."

## Meeting a Ghost Hunter

Just then, a bearded man walked into the room. "This is Basil Tripp," Helen Macduff explained. "Mr. Tripp is a professional 'ghost hunter' who is trying to find out if the ghosts here are real."

The man smiled. "I've heard nice things about the Bloodhound Gang."

"Thank you," said Vikki. "Tell me, Mr. Tripp, do you believe the ghosts are real?"

"So far, they seem quite real," Tripp answered. "As a matter of fact, I've been experimenting with an invention of mine called a 'Ghost-o-meter.' It shows strong evidence of a ghostly presence here."

"What do you mean?" Ricardo asked him.

Tripp showed them a small black box with three dials. He flipped a switch and the dials lit up while the needles—which were like compass needles—swung to one side.

"The machine detects the presence of ghosts," Tripp continued. "I believe ghosts can be tracked by tracing changes in the electric particles in the atmosphere. Do you see the way those needles swung to one side? That indicates a ghost may be in the house."

"Why are the needles pointing downward and to the left?" asked Vikki.

"They're pointing to the basement where we've seen the ghosts," explained Tripp.

"Let's take a look at that basement," Skip said.

"Wait until morning," Tripp warned, "because there isn't any light there now. Recently, someone or something damaged the electrical wiring down there."

## Screams in the Night

Burlingame, the butler, took the Gang upstairs and showed them the rooms where they would sleep that night. Ricardo and Skip fell asleep right away, but Vikki tossed and turned. Her room felt cold and gloomy. There was a portrait on the wall that disturbed her. It was of an ➤



elderly white-haired man with deep, penetrating eyes. It was as though, somehow, the picture was alive.

Suddenly, the sound of screaming came from below. Downstairs, Vikki could hear Helen Macduff calling out, "It's starting again! It's the ghosts!"

The Gang took off down the stairs. On the way, they ran into Basil Tripp who was carrying a lighted candle in his hand. "Follow me," he said. They followed Tripp and Helen Macduff through a long dark hallway. As they went, they heard more screams and then moans. Finally, they came to a doorway. On the far side of the basement storage room they saw bluish-white heads floating in midair.

Suddenly, Helen Macduff screamed, "I can't stand it! I can't stand it any more! I'm going in there!" Then she plunged in after the ghosts. Basil Tripp and Ricardo reached out to stop her, but she disappeared into the darkness.

"Helen!" Tripp called out to her, but there was no answer. "We can't leave her in there," said Vikki.

"It's too dangerous!" warned Tripp. But Vikki took the lighted candle from him, and she and Ricardo and Skip moved into the blackness of the room. The light from the candle sent shadows dancing over the walls.

Suddenly, Skip felt something with his foot. "Hold it!" he yelled. He bent down and touched a body lying on the floor. It was Helen Macduff.

## A Ghost in the Mirror

Finally, Basil Tripp made his way into the room. Together he and the Gang picked Helen Macduff up and carried her upstairs. A few minutes later, Helen opened her eyes and looked up at them.

"You must have blacked out and fallen to the floor," Vikki said to her. Downstairs the sounds of screaming and moaning had stopped.

For a few moments, Helen looked very shaken. "Perhaps I should leave the house before it's too late," she cried. "I've never been afraid of anything in my life before . . . but I'm afraid now. If my sister wants to be scared by ghosts she can have this place."

"What do you mean?" Vikki asked.

"Under the terms of my father's will, if I leave this house, it goes to my sister," Helen answered her. "But I really don't think Cleo wants it. She's never liked the house and anyway, she's already got millions of dollars of her own. That's why the house was left to me in the will." Then, shakily Helen got to her feet and added, "Right now . . . I just want to go back to bed."

At last, everyone went back to their rooms. Once again, Vikki tossed and turned before drifting off to sleep. But soon after, she woke up when she heard the sound of someone moving around in her room. She sat up and looked into the darkness. For a moment, she thought she saw Burlingame the butler moving about in the shadows. "Who's there? Burlingame, is that you?" she called out.

There was no answer. Vikki tried to switch on the lamp beside her bed, but it didn't work. She got out of bed and turned on the wall switch. Next to the switch was a mirror. Standing beside her in the mirror was a man with white hair and deep dark eyes.

She knew at once who it was. It was the man in the portrait.

## Does the Gang stand a ghost of a chance of solving this one?

Find out next month in Part Two of "The Case of the Floating Heads."





# Puzzle It Out

## Word Hunt Riddle

G	N	F	R	U	I	T	R	N	V
N	R	E	T	A	W	O	W	O	E
I	O	E	C	U	T	T	E	L	G
S	C	H	E	C	M	E	N	E	E
I	B	E	A	N	I	R	T	M	T
A	B	R	E	C	H	A	A	M	A
R	T	E	F	P	D	O	O	F	B
R	E	N	O	C	H	F	U	R	L
I	E	R	P	L	A	N	T	S	E
D	C	T	S	E	V	R	A	H	E

**When did the Idaho potato change its nationality?**

To find the answer, first do the word hunt. The words go across, up, down, diagonally, or backward. The leftover letters spell out the answer to the riddle. Start in the top row. Read from left to right. Write down the letters in the answer as you go.

### Word List:

BEAN	FRUIT	PLANT
CORN	GREENHOUSE	RAISING
CROP	HARVEST	TRACTOR
FARM	LETTUCE	VEGETABLE
FOOD	MELON	WATER

The answer is:

\_\_\_\_\_

\_\_\_\_\_

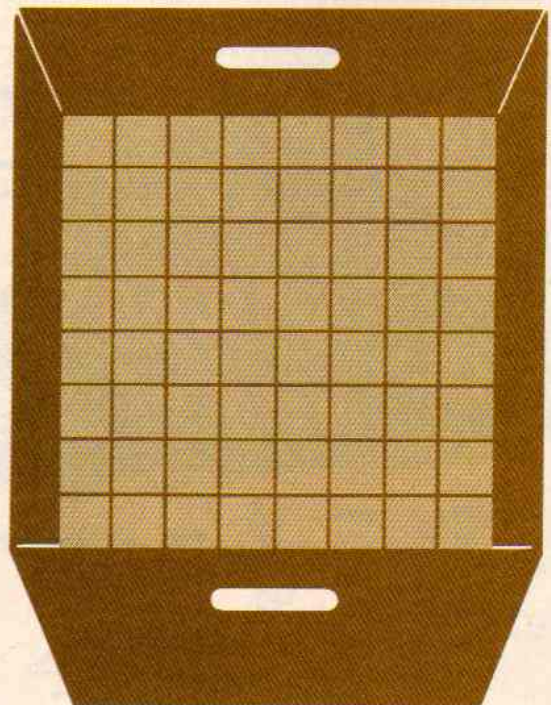
## Brain Teaser

Imagine that you are a farmer driving a tractor. At the corn field, three farm hands get on the tractor with six bushels of corn. At the wheat field, two farm hands get on the tractor with five bushels of wheat. At the same time, one farm hand gets off. In the middle of the ride a chicken flies onto the tractor. What color are the farmer's eyes?

## Square Planting

A farmer must pack eight tomatoes in this crate. Can you help him out? Fill in eight squares to show him how to pack it. But, careful!

1. No filled-in squares may touch.
2. No filled-in squares may be in the same row or column—across or up and down.



Answers on page 37.

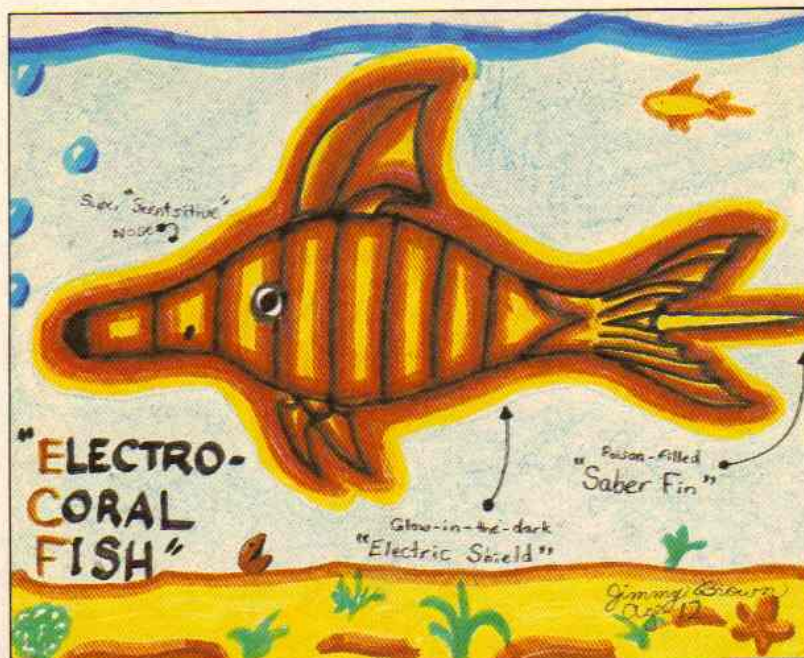


# MAIL

**Reef Creatures** Last September we asked you to think up weird underwater creatures. We got some great drawings. Here are some of our favorites.



**Jennifer Phillips, Allentown, PA** The Lonely Bubbleshoot blows blue bubbles.



**Jimmy Brown** The Electro-Coral Fish glows in the dark.



**Justin Auld, Williston, VT** Nocplodacuss blends in with its surroundings.



**Darla Ledger, Thurmont, MD** The Mexican Parrot Fish spears food with its tongue.



## What's the Story?

On pages 12-15, you read about the SETI scientists who think there may be life in outer space. It turns out that many of you agree with them. Here's what some of you told us about the possibility of life on other planets.

### Yes, I think there could be life on other planets.

I think there is life on other planets. There have been so many UFO sightings that there has to be. I think the kind of life would be computerized life like it would be on earth in the future.

Jennifer Beaver  
Tulsa, OK

I believe there may be life in outer space. But the universe is so vast that it would take a very long time for us to get enough technology to explore so far. So there may be only one way for us to find out about outer space beings. They might have to come to us.

Joey Blanch  
Logan, UT

I think there are people on other planets. I don't think there are little green men, though. I think people on other planets would be a lot like us.

Suzanne La Forge  
Rigby, SD

There must be some form of life out there, even if it is the tiniest plant. There could be green people, or red, purple, blue—any color. There could be people that breathe oxygen, helium, or hydrogen or simply nothing. Maybe they live underwater and communicate by using brain waves. They might communicate using something we don't even know exists.

Raoul DeGaetano  
East Berne, NY

I believe that in each and every solar system there is one planet with life forms. These life forms are rather hard to explain, but if you eat a big salami sandwich just before you go to bed you'll be sure to see them in your dreams!

Jake Novak  
Hoffman Estates, IL

If we have the right to live on this planet, why wouldn't other creatures? What would be the purpose of all those other planets? Maybe they just don't show themselves because they know our conditions. They might not want to join the human race. Look at what we have done to this planet. I believe there are other beings out there. We just haven't found them yet.

Marie Kozak  
Linden, NJ

I believe that there are probably many other forms of life in the universe. They might have different color skin, more legs, or different textures of skin.

Jeremy Haberman  
Detroit, MI

Yes, I think there is life on other planets. I also think that the people on other planets are sending spaceships to earth. I think that because the spaceships tend to stop and change course very quickly. No earth ships can do that. I think there would be green life forms with four arms, two heads and three legs.

Tony Sowers  
Bradford, PA

I think that there is some kind of life on other planets. There are probably different creatures all over, but somewhere I believe there are people like us wondering if we exist.

Tracy Niemeyer  
Fort Atkinson, WI

I do believe there is life on other planets. The size, shape and appearance of alien life depends on the atmosphere and climate of the planet. The life form would be conditioned to the planet like cactuses are to deserts and fish to water.

Jamie Johnson  
Houston, TX

### No. I don't think there is life on other planets.

I say there are no people living on other planets because no one has seen them on earth. If there were people in outer space why don't they land here?

Rachel Zanzig  
Pierpont, OH

I don't think there are aliens. I think that whatever someone saw was either their imagination or lights from the atmosphere. If there were aliens in outer space then we should know about them.

Ann Hart  
Rockville, MD

I don't think there is life on other planets because most planets are either too hot or too cold for living things.

Alice Clements  
San Francisco, CA

I do not think there is other life because nothing can live without oxygen.

George Mrnaci  
Yonkers, NY

The reason I don't think there is life on other planets is because of the poisonous gases on some, like Saturn. I do think it *might* be possible that there is another type of being that can stand the gases, though.

Amy Meredith  
Hot Springs, AR



# Extra!

by Bill McCoy

Don't close your magazine just yet. There are lots of puzzles, games, and surprises left for you in this month's EXTRA! Keep reading.

## Dig It!

Here's a list of items that archeologists might find if they went digging. To find the words hidden in the sentences, you don't have to do any real digging. Just dig into the sentences. For example, find the word "dig" in this sentence like this: Did I go crazy?

### Word List

BASKET

BOWL

PITCHER

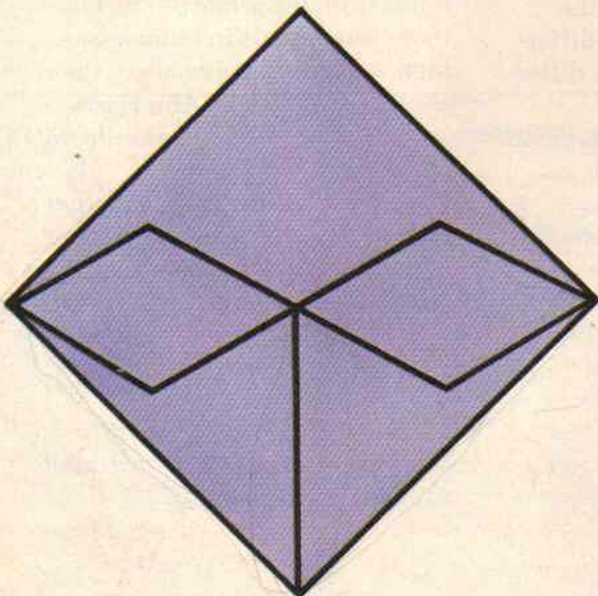
MATS

SANDALS

1. Bess and Al should come soon.
2. Pit cherries before you bake a pie.
3. Meet Tom at seven o'clock.
4. To see if that's a sheep or a lamb, ask Etta.
5. Kiss your elbow lightly.

## Trace the Space Face

What might an alien from outer space look like? Maybe like this:



Can you trace the spacey face with your pencil? It's tricky! Don't pick up the pencil. Don't go over a line you've already drawn. Ready, set, trace!

## The Great Wound Up

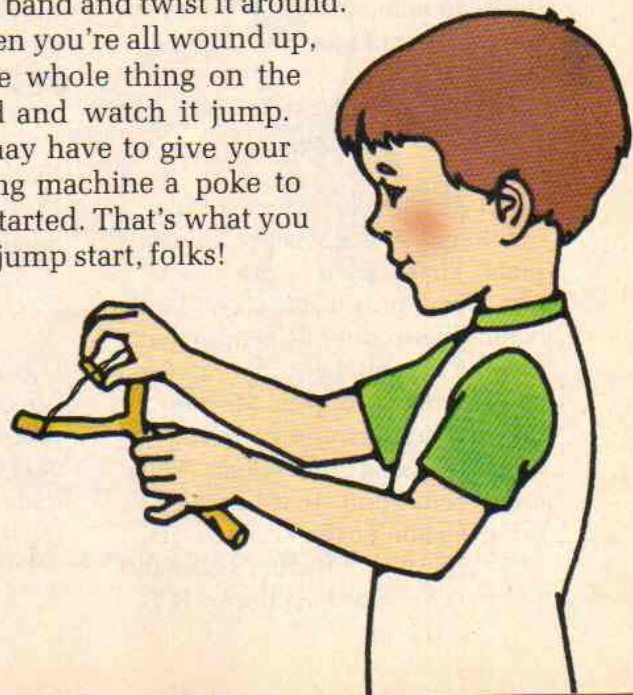
Spring is a great time to plant a garden. If you're clearing the ground for one, you may find some twigs. Here's how you can turn them into a toy.

### What You Need

- a strong twig shaped like the letter "Y"
- a small straight twig
- a rubber band

### What to Do

1. String the rubber band around the top of the Y-shaped twig. Stick the straight twig into the rubber band and twist it around.
2. When you're all wound up, put the whole thing on the ground and watch it jump. You may have to give your jumping machine a poke to get it started. That's what you call a "jump start, folks!"





## Fill 'Er Up

In *Any Questions?* you found out how a cactus grows. Here's a trick you can do to see how cacti (that's more than one cactus), and other plants pull their water up from the ground.

### What You Need

- water
- 2 glasses
- paper towel
- a pile of books

**1.** Fill a glass with water. Put it on top of the books. Put the second glass next to the books, as in the picture.

**2.** Put the strip of paper towel in the glass of water. Make sure it touches the bottom. Then put the other end of the towel into the empty glass. Leave the set-up alone for about half an hour.

When you come back, you'll find the water has traveled through the paper strip from the full glass into the empty one.

### Why It Works

The water is drawn through the loose fibers in the paper towel. In a similar way, roots of a cactus draw water from the ground. It's called capillary (CAP-ih-lar-ry) action.



## They Came From Outer Space

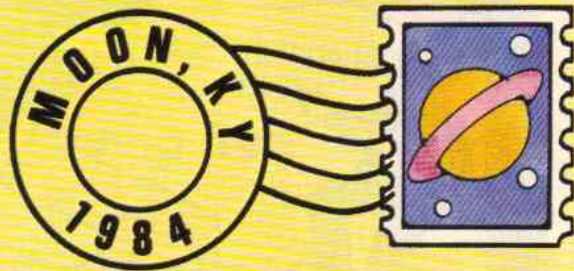
Earth may not have contacted any extra-terrestrials—yet, but you can get mail from some places that are out of this world!

The towns listed here are really in the United States. With the help of the post office, you can get mail from them. All you need is a stamped, self-addressed postcard, some paper, and a stamped envelope.

### What to Do

**1.** Write yourself an out-of-this-world message on the postcard. What might you say if you were writing from Moon, KY, or Mars, PA?

**2.** Write a letter to the postmaster and say: Please mail back the enclosed postcard with a clear postmark for my collection. Thank you.



**3.** Mail the letter and postcard to:

Postmaster  
Name of the town you choose  
State, Zip code

Towns you can write to:

Cosmos, MN 56228	Mars, PA 16046
Earth, TX 79031	Moon, KY 41457
Neptune, NJ 07753	Sun, LA 70463
Stars, MS 39167	Venus, FL 33960
Jupiter, FL 33458	

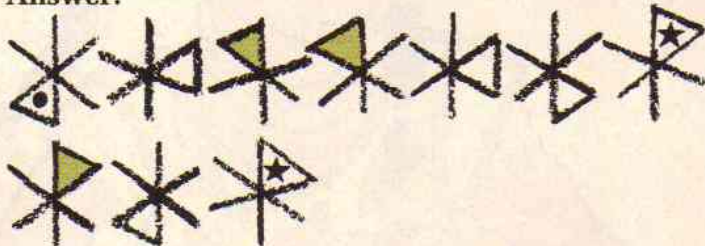


# Extra!

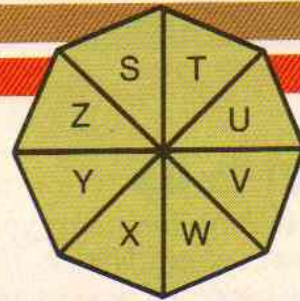
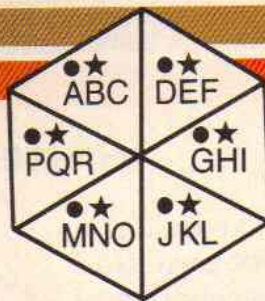
## Extraterrestrial Intelligence Test

If ball players get athlete's foot, what do space travelers get? —————

Answer:



The answer to this riddle is in our own space code. We've written the letters of our alien alphabet in shapes. To solve the riddle, match the outline of the answer's shapes to the letters in the code.



1. Find the letters that belong in each shape in the answer.

2. If there's a dot in the answer's shape, write down the first letter. If there's a star in the shape, write down the second letter. If there's nothing, write down the third letter.

3. Is the shape colored in? Then match the shape to the shaded code.

For example: The first letter in the answer is the shape that has the letters M, N, O. Since the answer shape has a dot in it, the letter is M.

Keep our code on hand and use it to send secret messages. Far out!

The answers to the puzzles are on page 37.

## 3-2-1 Contest

In this issue, you've seen how all sorts of animals sleep. Now tell us how you get to sleep. If you have a way other than counting sheep, let us hear about it. Winners will get CONTACT T-shirts.

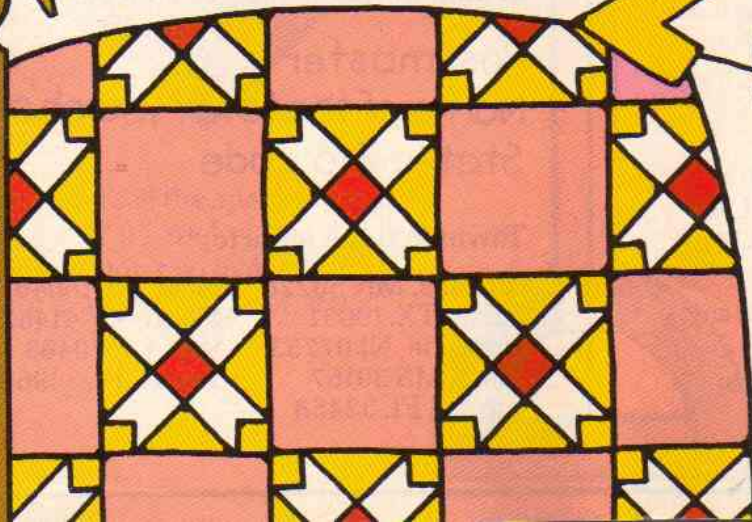
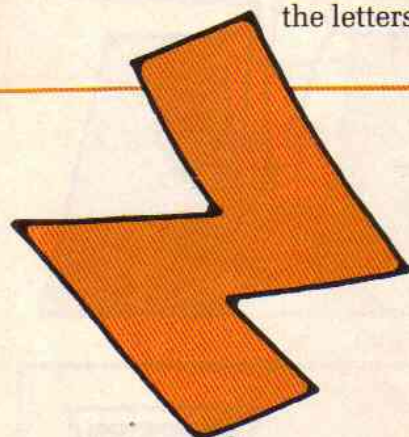
Send your idea to: 3-2-1 Contest:

Sleep

P.O. Box 599

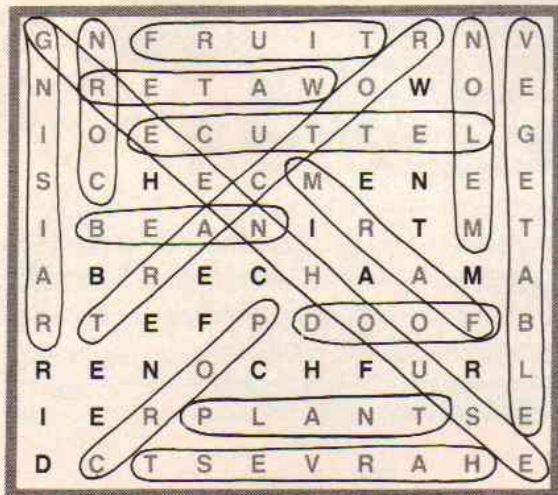
Ridgefield, NJ

07657





## Word Hunt Riddle (page 31)



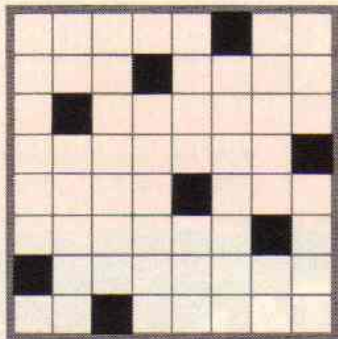
WHEN IT BECAME FRENCH FRIED

## Brain Teaser (page 31)

To find out what color eyes the farmer has, look in the mirror. Remember, we asked you to imagine that you are the farmer!

## Square Planting (page 31)

Here is just one of the solutions.



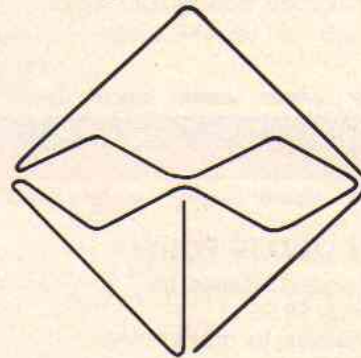
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## Dig This (page 34)

1. Bess and Al should come soon.
2. Pit cherries before you bake a pie.
3. Meet Tom at seven o'clock.
4. To see if that's a sheep or a lamb, ask Etta.
5. Kiss your elbow lightly.

## Trace the Space Face (page 34)



## Extraterrestrial Intelligence Test (page 36)

MISSILE TOE

## Next Month!

Here's a sample of what you'll find in the next issue of 3-2-1 CONTACT:

### Going Ape

Meet a woman who lived among gorillas in the wild in Africa.

### On The Beach

Join a group of kids as they explore the beach and discover some of its secrets.

### World's Fairs

Read about the New Orleans World's Fair and others.

**Plus a Mini Mystery, Factoids, Mail, and More!**



### ENTER ORDER FORM

- ☐ Yes! Please send 1 year (10 issues) of Enter for only \$12.95.

CHILD'S NAME \_\_\_\_\_ AGE \_\_\_\_\_

ADDRESS \_\_\_\_\_

CITY \_\_\_\_\_ STATE \_\_\_\_\_ ZIP \_\_\_\_\_

LIST BILLING NAME AND ADDRESS IF DIFFERENT FROM ABOVE.  
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One Disk Drive, P.O. Box 2685, Boulder, CO 80322

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8HN26

## INFORM WITH ENTER

**NEW—ENTER Magazine.** The fun way for your child to learn computer skills, understand computer technology and even become a video game champ. Ten issues bring programs, quizzes, puzzles and features that involve 10-16 year olds and encourage them to become competent computerites. And you don't need a computer in your home to make it work!



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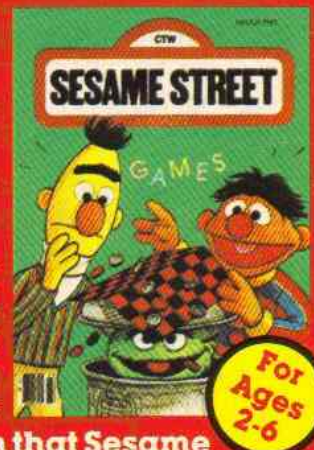
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8HN34

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8HN42

## ENTERTAIN WITH ELECTRIC COMPANY

**The Electric Company Magazine—**as creatively entertaining as the T.V. show kids love. It's amusing, playful, absorbing and educational for beginning and young readers. Enjoy ten colorful issues filled with puzzles, posters, cut-outs, Spidey super stories, jokes...and sunny smiles.



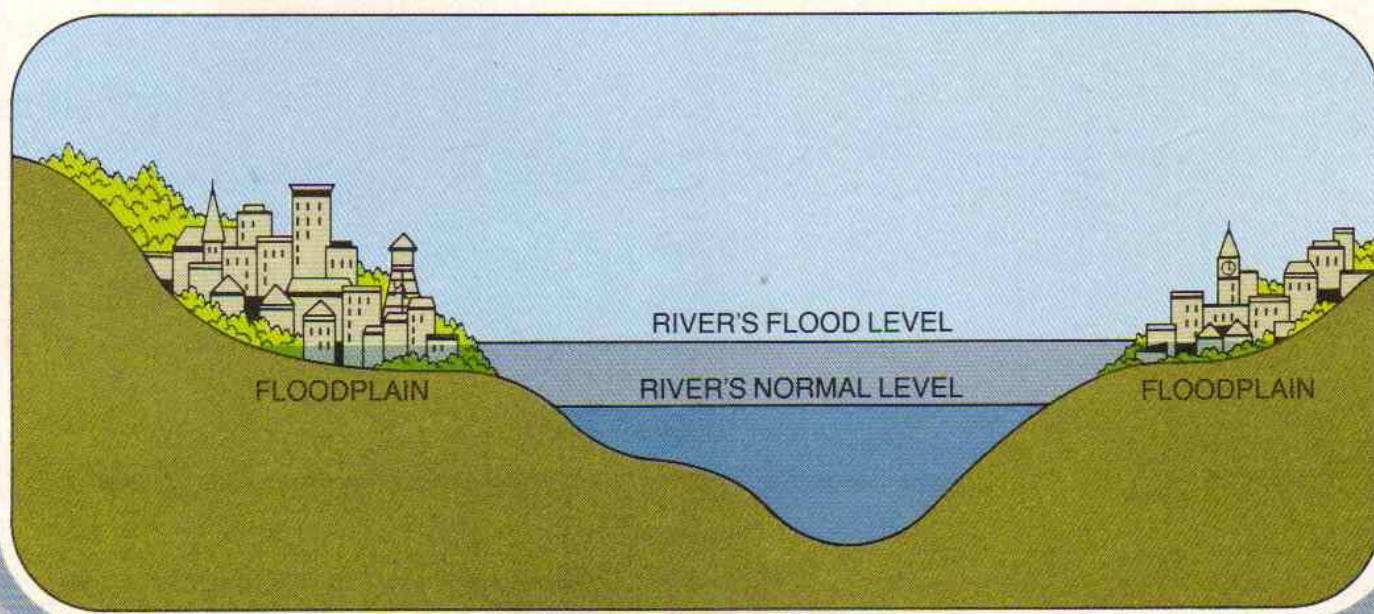


## Earthfacts: Floods

Each month CONTACT will bring you another *Earth Works*. Save these pages in a notebook. Soon you will have your own guide to the wonders of the planet earth.

- ☉ It's springtime and that means that many rivers will be overflowing their banks. Floods are natural for most rivers during this time of year. They occur after heavy rain or when the weather warms up and snow begins to melt. Since more water than usual starts flowing through a river's channel, the water spills over onto nearby land.
- ☉ When the floodwaters of a river spill over its banks, they carry rich growing soil. When the waters go down, this soil is left behind. That's why farmers want land along rivers. The soil left by floods along the Nile River in Egypt, for instance, is practically the only land where Egyptians live and grow food.
- ☉ Most of the time, floodwaters rise slowly, so there is plenty of warning. But some floods—called flash floods—happen quickly after a heavy rain. Water races over the land, carrying bushes, small trees, and homes in its path.
- ☉ Eighty years ago, a flash flood sent a 20-foot-high wall of water over an Oregon town. In less than an hour, one third of the buildings were destroyed, and 200 people were killed.
- ☉ Sometimes people cause floods. Residents of Houston, Texas, for instance, use wells to pump lots of water from underground. That has made the land above sink several feet. So the water from a nearby bay has begun to flow in and flood homes.
- ☉ Coastal lands often flood during severe storms. High waves get whipped up by the wind and crash onto shore. In 1969 Hurricane Camille caused tides 20 feet high that washed away houses, bridges, and trees along the Gulf coast of the United States.
- ☉ Floods cause more than \$1 billion worth of damage in the United States each year. But there are ways to control floods. The best one is not to build homes in places that flood. Another way is to build dams that hold back extra water.

**Below:** When more water than normal flows down a river, its level rises. The river floods. The higher waters cover the river's floodplain—a low area along the sides of the river. Buildings built on these floodplains then get covered by water.



# EarthWorks





**EarthWorks**

## Floods

This house is usually near a river in Louisiana. But when this photo was taken, the house was in the river. Heavy rains or melting mountain snows often make rivers flood. Waters rise and cover houses, farms, and anything else in their way. People are forced out of soggy homes. And boats become more useful than cars to travel on streets under many feet of water.

It can take a long time for flood waters like these to go down. Months of hard work and lots of money are often needed to get things dry and back to normal.

For more on floods, turn to page 39.

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